The Net Effects of the Project NetWork Return-to-Work Case Management Experiment on Participant Earnings, Benefit Receipt, and Other Outcomes

*by Robert Kornfeld and Kalman Rupp**

The article summarizes the results of a major social experiment initiated by the Social Security Administration to test case management as a tool of promoting employment among persons with moderate to severe disabilities. This comprehensive analysis shows the benefits of using an experimental design to derive realistic net outcome estimates. While the results cannot be generalized to other case management interventions, they are nevertheless instructive for planning new initiatives.

* The authors are, respectively, from Abt Associates, Inc., and the Office of Research, Evaluation, and Statistics, Office of Policy, Social Security Administration.

Summary

The Social Security Administration (SSA) initiated Project NetWork in 1991 to test case management as a means of promoting employment among persons with disabilities. The demonstration, which targeted Social Security Disability Insurance (DI) beneficiaries and Supplemental Security Income (SSI) applicants and recipients, offered intensive outreach, work-incentive waivers, and case management/referral services. Participation in Project NetWork was voluntary. Volunteers were randomly assigned to the "treatment" group or the "control" group. Those assigned to the treatment group met individually with a case or referral manager who arranged for rehabilitation and employment services, helped clients develop an individual employment plan, and provided direct employment counseling services. Volunteers assigned to the control group could not receive services from Project NetWork but remained eligible for any employment assistance already available in their communities. For both treatment and control groups, the demonstration waived specific DI and SSI program rules considered to be work disincentives. The experimental impact study thus measures the incremental effects of case and referral management services.

The eight demonstration sites were successful in implementing the experimental design roughly as planned. Project NetWork staff were able to recruit large numbers of participants and to provide rehabilitation and employment services on a substantial scale. Most of the sites easily reached their enrollment targets and were able to attract volunteers with demographic characteristics similar to those of the entire SSI and DI caseload and a broad range of moderate and severe disabilities. However, by many measures, volunteers were generally more "work-ready" than project eligibles in the demonstration areas who did not volunteer to receive NetWork services.

Project NetWork case management increased average annual earnings by $220 per year over the first 2 years following random assignment. This statistically significant impact, an approximate 11-percent increase in earnings, is based on administrative data on earnings. For about 70 percent of sample members, a third year of followup data was available. For this limited sample, the estimated effect of Project NetWork on annual earnings declined to roughly zero in the third followup year. The findings suggest that the increase in earnings may have been short-lived and may have disappeared by the time Project NetWork services ended.

Project NetWork did not reduce reliance on SSI or DI benefits by statistically significant amounts over the 30–42 month followup period. The services provided by Project NetWork thus did not reduce overall SSI and DI caseloads or benefits by substantial amounts, especially given that only about 5

percent of the eligible caseload volunteered to participate in Project NetWork.

Project NetWork produced modest net benefits to persons with disabilities and net costs to taxpayers. Persons with disabilities gained mainly because the increases in their earnings easily outweighed the small (if any) reduction in average SSI and DI benefits. For SSA and the federal government as a whole, the costs of Project NetWork were not sufficiently offset by increases in tax receipts resulting from increased earnings or reductions in average SSI and DI benefits. The modest net benefits of Project NetWork to persons with disabilities are encouraging. How such benefits of an experimental intervention should be weighed against costs to taxpayers depends on value judgments of policymakers.

Because different case management projects involve different kinds of services, these results cannot be directly generalized to other case management interventions. They are nevertheless instructive for planning new initiatives. Combining case and referral management services with various other interventions, such as longer term financial support for work or altered provider incentives, could produce different results. The effects of case and referral management services could also be sensitive to numerous site-specific factors, such as the implementation process, labor market conditions, and the availability of local services for persons with disabilities.

I. Introduction

This article, one of a series of papers, summarizes the key outcomes of Project NetWork, a return-to-work program for persons with severe disabilities.[1] The Social Security Administration (SSA) initiated Project NetWork in 1991 to test the feasibility and effects of outreach and case and referral management services for beneficiaries of Social Security Disability Insurance (DI) and applicants for and recipients of Supplemental Security Income (SSI). From 1992 to 1994, members of the target population in eight demonstration sites were recruited to volunteer to receive Project NetWork services. A comprehensive evaluation component was included in the demonstration design, including the random assignment of 8,248 volunteers to a "treatment" group receiving case management services or to a "control" group of persons who did not receive case management services but who could obtain services on their own. To increase the incentive to work, volunteers in both the treatment and control groups were also offered waivers of SSI and DI program rules considered to act as work disincentives. The evaluation of Project NetWork is thus a rigorous study of the effects of case management services to encourage persons with disabilities to obtain work, a high-priority public policy issue.

The comprehensive evaluation design included several major study components:

- Process study of implementation of the demonstration at all eight sites;
- Participation analysis focusing on targeting and self-selection among eligibles, including comparisons of the characteristics of volunteers who participated in the demonstration and the characteristics of eligible persons who did not volunteer;
- An experimental study based on the random assignment of volunteering participants to treatment and control status to measure the net incremental effect of case management on the receipt of DI and SSI disability benefits, earnings, and other outcomes during the post-randomization followup period;
- Supplemental statistical analysis to measure possible waiver effects on both treatment and control cases; and
- An analysis of the overall costs and benefits of Project NetWork from the perspective of disabled study participants, taxpayers, and various levels of government.

This article focuses on the "net outcomes" (or net impacts) of the Project NetWork demonstration. The phrase net outcomes connotes ultimate results, such as the longer term effects on earnings, benefit receipt, and other outcomes. However, from a broader perspective there are other outcomes of interest that also relate to process or intermediate variables. For example, the implementation outcomes are of interest in assessing the feasibility of implementing a complex demonstration design in different organizational and institutional settings. Likewise, the selection of participants among project eligibles is an intermediate outcome of great interest in its own right, and the intermediate outcome of service receipt is relevant for the interpretation of net outcomes, and directly enters the calculation of the overall benefits and costs of the demonstration.

The evaluation is based in part on an extensive database obtained from both administrative records and personal surveys. Basic demographic data on both the 8,248 volunteers and the 138,613 eligible nonparticipants who lived in the demonstration areas but who did not volunteer for the demonstration were compiled from SSA administrative records based on a simulation of program eligibility rules.[2] These data serve as a basis for analyzing the decision to volunteer for Project NetWork. SSI and DI benefit information for the months immediately before and during the followup period were obtained from administrative records. Annual data on earnings covered by Social Security were compiled from the Master Earnings File (MEF) data system. In addition, baseline survey interviews of 3,439 randomly selected eligible nonparticipants and treatment and control group members took place near the start of the demonstration. Followup survey interviews of 1,521 treatment and control group members took place 2–3 years after random assignment. The surveys obtained information on issues such as health and well-being and attitudes toward Project NetWork.

The article is organized as follows. The key features of the Project NetWork demonstration and implementation are summarized in section II. Section III provides information on

the selection of participants who volunteered for the demonstration. This sets the stage for the analysis of net impacts since the impact results are conditional on the characteristics of the participants who volunteered for the demonstration. The next section presents a discussion of the data sources and methodology for the net impact analysis. Section V summarizes the estimated experimental net impacts of case management on earnings, the receipt of DI and SSI benefits, and other outcomes. Section VI provides the results of subgroup analyses of net case management impacts by demographic and programmatic variables. A summary of the results of the analysis of costs and benefits from various perspectives is presented in section VII. Section VIII details the key lessons learned from the Project NetWork experiment for the design and implementation of future demonstration evaluations. Lessons learned from the demonstration and a discussion of implications for new initiatives are presented in section IX.

II. Demonstration Design

The Project NetWork demonstration was designed to test the efficacy of case management services in facilitating employment among severely disabled DI beneficiaries and SSI recipients and applicants who responded to the program's intensive outreach. This outreach to all members of this large target group was rooted in the belief that the traditional vocational rehabilitation (VR) system did not have the resources to serve many severely disabled beneficiaries, and that the program should instead reach out to the full range of disability beneficiaries. It was believed that many persons with severe disabilities are good candidates for employment intervention if the appropriate mix of services is provided. Case management was seen as a tool for facilitating employment-oriented interventions customized for each individual, given that persons with disabilities face a range of barriers to work. It was hoped that these services would lead to increased earnings and reduced receipt of benefits. The demonstration tested whether these services could be implemented on a large scale.

Voluntary participation was another important feature of this demonstration and in many similar employment and training experiments. On a smaller scale, a similar voluntary model has been used for the previous Transitional Employment Training Demonstration at SSA (Decker and Thornton 1995), which tested these services for SSI recipients who have mental retardation. The voluntary model is thought to facilitate the success of the intervention by providing services for only a self-selected group of motivated persons with disabilities. The voluntary model also responded to ethical and operational considerations that are important in setting up fair and workable demonstrations of alternatives to the status quo. Volunteers who participated were offered work-incentive waivers to facilitate the demonstration. Both the voluntary nature of the demonstration and the work-incentive provisions must be considered in interpreting the net outcome results.

For the demonstration volunteers, case managers provided a variety of services, such as intake, face-to-face contact with clients, and the direct provision of job search assistance. They ordered and evaluated vocational assessments, referred volunteers to other service providers for job search assistance, classroom training, psychological counseling, physical therapy, business skills training, and other services. Most important, they were supposed to work with beneficiaries one-on-one. A substantial portion of their work was based on informal contacts, sometimes generating job leads. Often, case managers helped their clients to deal with several complex personal problems as well.

The demonstration used four alternate delivery systems (models) to provide these case and referral management services. The four models had the same overall features, including identical outreach procedures and waiver provisions, but they differed somewhat in the implementation of the case management intervention. Each of the four models of case management was implemented in two of the eight demonstration sites. The first three models differed only in the nature of the organizational role and experiences of the case manager. In the SSA Case Manager Model (Dallas and Fort Worth), case management was provided by SSA staff. In the Private Contractor Model (Phoenix/Las Vegas and Minneapolis), case management was provided by private rehabilitation organizations. In the VR Outstationing Model (New Hampshire and Richmond), case managers came from state VR agencies and were "outstationed" in local SSA offices. The fourth model, the "SSA Referral Manager Model" (Tampa and Spokane/Coeur d'Alene), was designed to be less intensive and lower in cost: the focus was on referrals to other providers as opposed to direct services to clients.

Project NetWork thus provided three principal bundles of services: outreach, waivers, and case management. It is important to note that these three types of services targeted different sets of DI beneficiaries and SSI applicants and recipients. The outreach component of the demonstration targeted the broadest of the three groups, while waivers were applied to a narrower subset, and case management to an even smaller, randomly selected subset. Understanding the relationship between these three groups is important for properly identifying the different evaluation questions that apply to the three groups and for interpreting the evaluation results.

(1) For intensive outreach purposes, approximately 150,000 DI beneficiaries and SSI recipients and applicants living in the demonstration areas ("project eligibles") were invited to participate without regard to the nature of disabilities. Outreach mailings targeted beneficiaries who were on the rolls during the demonstration without regard to their potential employability or interest in volunteering. Essentially this included all DI beneficiaries and SSI recipients aged 16 to 65 who were on the rolls. Similarly, all SSI applicants aged 16 to 65 who applied during the demonstration period were targeted for outreach.

(2) Work-incentive waivers were offered to 8,248 participants who volunteered for the demonstration. The 8,248 participants included two randomly assigned subgroups:

treatment and control cases. (The randomization was performed off-site by an independent evaluation contractor, Abt Associates, Inc.) The waivers were designed to facilitate work activity by project participants. Waivers (a) allowed referrals to public and private rehabilitation services in addition to state VR agencies only as required by current law; (b) provided that work performed for up to 12 months while in the project for purposes of determining a trial work period (TWP) or substantial gainful activity (SGA) not be counted; (c) provided that continuing disability reviews (CDRs) not be counted when an SSI participant moves into 1619 status. The most important waiver was to stop the TWP clock for 12 months among DI beneficiaries. The waivers were less significant for the SSI group (for more detail, see McManus, Rupp, and Bell 1993).

(3) Finally, case management services were offered to 4,160 persons randomly assigned to the treatment group. As described earlier, case managers performed a variety of employment-related services directly or through outside vendors.

The Project NetWork recruitment and intake process is shown in chart 1. The two boxes on the top of the chart represent the two separate streams of persons subject to outreach: the applicant stream refers to SSI applicants who were informed of the opportunity to volunteer for Project NetWork by case managers; the beneficiary stream represents persons already on the DI or SSI disability rolls who were informed through an outreach mailing effort. The flowchart shows that identifying *participants* was a multi-step process starting out with the individual expressing interest (*pre-application*) and ending up with an informed decision *jointly* made with the case manager to sign up after receiving more detailed information about the project. The box on the bottom represents the Project NetWork *participants* who volunteered for the demonstration. These participants were randomly assigned to treatment and control status with a 50-percent chance of assignment to each group. This randomization took place immediately *after* signing up for participation.

The process study showed that all of the demonstration models were able to recruit large numbers of participants and to provide rehabilitation and employment on a substantial scale. The massive outreach targeting about 150,000 persons living in the demonstration areas through mailings to beneficiaries and field office referrals of new SSI applicants was successfully conducted, as was the implementation of all four case management models. The enrollment targets for voluntary participation were met: a total of 8,284 persons—98.6 percent of SSA's goal of 8,400—volunteered for the demonstration. Most participants completed assessment and employment planning and received some employment-related services in all models. The demonstration convincingly showed that broad-based return-to-work services can be implemented on a large scale in a variety of institutional arrangements.

Most treatment group members who responded to the followup survey recall having met with their case/referral managers and had positive opinions of the helpfulness of Project NetWork (table 1). The intensity of interactions with case managers varied somewhat, although the vast majority reported that they met with a case/referral manager at least once. It is notable that about 3 of 4 respondents reported positive experiences with the case managers, but only about 1 of 3 reported that Project NetWork helped them to get a job. According to the management information system that kept track of services purchased for clients by case/referral managers, about 45 percent of treatment group clients received purchased rehabilitation services. This figure is roughly similar to the 49 percent of treatment group members who reported receiving Project NetWork services in the followup survey.

III. Participant Selection

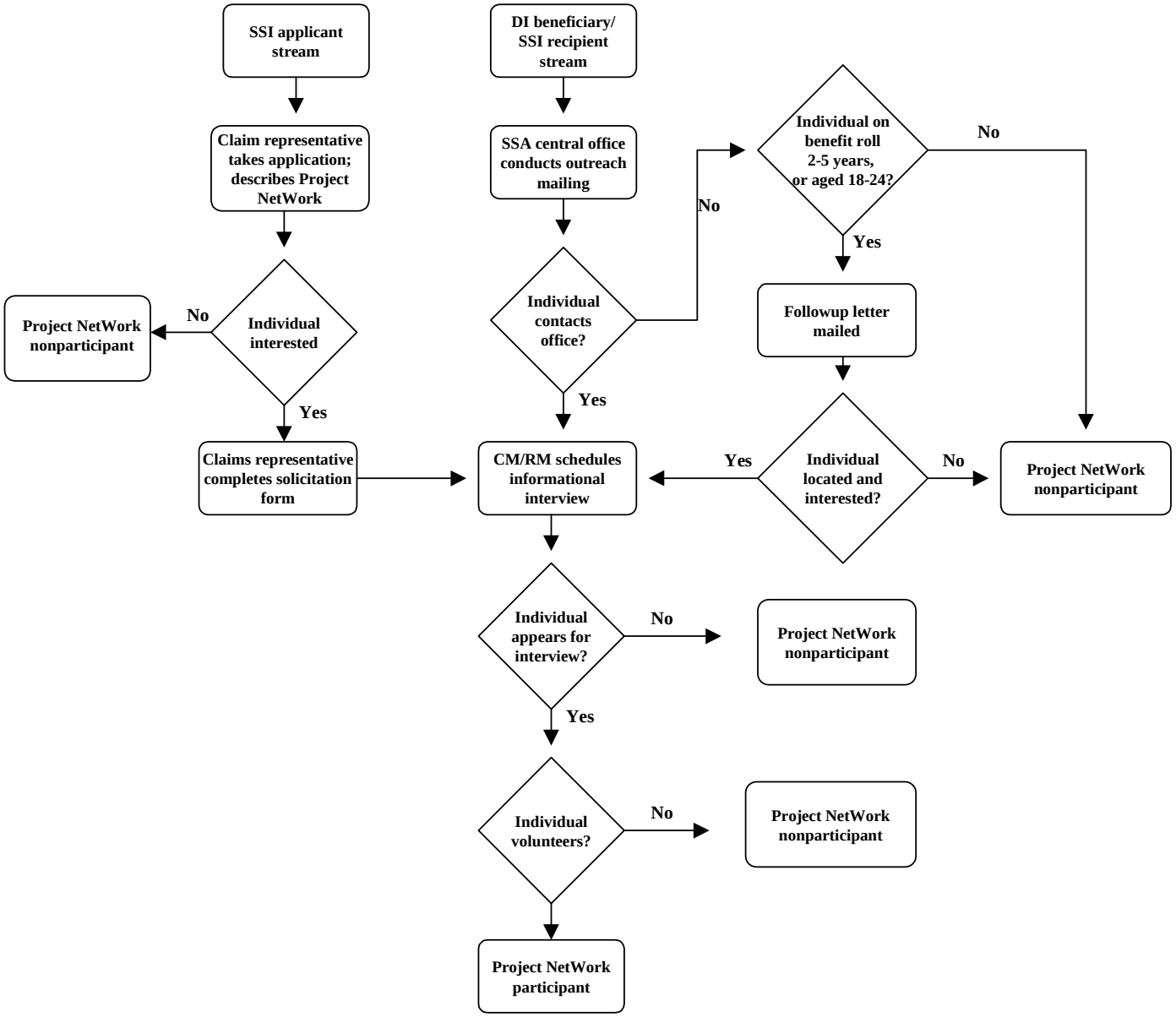
The analysis of the Project NetWork outreach and self-selection process (Rupp, Wood, and Bell 1996; and Burstein, Roberts, and Wood 1999) showed that Project NetWork outreach successfully attracted persons with demographic characteristics similar to those of the entire SSI and DI caseload and with a diverse range of disabilities. As one might expect, volunteers were generally more "work-ready" than nonvolunteers. These findings are shown in tables 2–5.

The general demographic characteristics of Project Network volunteers and the universe of all Project NetWork eligibles are very similar (table 2). These findings are based on administrative records from SSA. Somewhat more than half are male, and about half are aged 40 or younger. About 40 percent have mental impairments, 13 percent have musculoskeletal disabilities, about 5 percent have neurological problems, and about one-third have other types of primary impairments. Somewhat more than half received DI benefits, while the rest either received SSI benefits or had attempted to apply for benefits. Several years of prior dependence on both DI and SSI benefits is clearly common.

Some larger differences between volunteers and nonvolunteers emerge when we examine measures of health status and work limitations reported by Project NetWork eligibles who responded to the baseline survey. Nonvolunteers are more likely than volunteers (treatment and control group members) to report that they are in poor health or that they have a physical, mental, or other condition that prevents work (table 3). Nevertheless, volunteers still faced significant health problems. Volunteers and nonvolunteers reported spending about the same number of days in bed because of illness or injury, and volunteers were actually more likely to have stayed in a hospital because of emotional problems or to have felt depressed for much of the previous year.

A substantial number of volunteers and nonvolunteers were classified as depressed, according to the Center for Epidemiological Studies depression screener (CES-D, table 4). This widely used screener is based on responses to 20 questions about the respondent's emotional state, with possible scores ranging from zero (least depressed) to 60 (most depressed). A

Chart 1.—Project NetWork recruitment and intake process



value of 16 is often used as a cutoff, with those scoring 17 or higher identified as severely depressed. The Rupp, Wood, and Bell study (1996) provides further analysis of characteristics of volunteers and nonvolunteers.

Analyses of responses to other questions in the baseline survey confirm that volunteers were more work- ready than nonvolunteers. About 73 percent of all demonstration eligibles but only 43 percent of volunteers were classified as having severe activities of daily living (ADL) or instrumental activities of daily living (IADL) disabilities, said they had no work experience, or claimed to have no ability to work. Volunteers were more likely to have worked more than 30 hours per week over the prior 12 months. Volunteers nevertheless faced significant barriers: only about 8 percent of volunteers reported no ADL or IADL disabilities, felt they were able to work, and had worked more than 30 hours per week over the prior 12 months.

Although volunteers and nonvolunteers often expressed positive attitudes about work in the baseline survey, volunteers were clearly more likely to express a strong commitment to employment in the 11 questions measuring work-related attitudes (table 5). Almost half of volunteers but less than 30 percent of nonparticipants strongly agreed with the statement "I want to work in order to make more money." Similarly,

volunteers were more likely to feel strongly that they would be ashamed if they did not try to work, that work is very satisfying, that family and friends might think poorly of them if they did not try to work, or that they would feel bored without a job. In sum, the Project NetWork volunteers are a self-selected group of persons who clearly differ from nonparticipants in terms of work history, some health problems, and work attitudes.

IV. Data Sources and Methodology

SSA administrative records are the most reliable source of information on several key outcomes of interest for all persons in the demonstration. These data provide at least 30 months of post-random assignment data on SSI benefits, at least 42 months of post-random assignment data on DI benefits, and a complete benefit history during the pre-demonstration period.[3] These administrative records were also used to obtain the universe of eligible individuals solicited for the demonstration[4] and to collect basic demographic information, such as gender, race, age, and primary impairment, measured at the time of random assignment.[5] The Master Earnings File (MEF) provided annual (calendar year) SSA-covered earnings reported by employers. A management information system (MIS) recorded receipt by treatment group members of specific categories of services funded by Project NetWork.

We also used data from in-person interviews with treatment and control group members conducted at baseline and followup. To estimate impacts, we relied on administrative data as much as possible because survey data were collected for only a subset of randomly assigned volunteers and may suffer from recall bias. Nevertheless, we used survey data to estimate impacts on outcomes not recorded in administrative data files.

Baseline interviews were conducted with a sample of treatment, control, and nonparticipant cases from March 1993 through December 1993. A total of 3,439 baseline interviews were completed, including 2,555 with treatment and control group members, and 884 with nonparticipants. From June 1996 through November 1996, a total of 1,521 followup interviews

Table 1.—Satisfaction with Project NetWork services

[In percent]

Followup survey response	Treatment group survey respondents (N=786)
Ever met with case manager in person	89.0
Received Project NetWork services	49.0
Number of times per week met with case/referral manager:	
Only one time ever	18.0
Less than once per week	60.0
1–2 times per week	18.0
3–4 times per week	1.0
5 or more times per week	.6
Average length of in-person meetings with case/referral manager for those who reported at least one meeting:	
Less than 15 minutes	9.0
15–30 minutes	30.0
30–60 minutes	49.0
More than 60 minutes	11.0
Ever had contact by phone with case/referral manager	84.0
Percentage of survey respondents who strongly agree or agree with the following statements:	
I got help from my case/referral manager when I needed it	72.0
Project NetWork helped me get a job	33.0
If I had it to do over again, I would participate in Project NetWork	77.0

Source: Project NetWork Followup Survey.

Table 2.—Percentage distribution of simulated Project NetWork eligibles and participants based on administrative records, by selected characteristics

Characteristic subgroup	Percentage distribution of— Simulated eligibles	Simulated eligible participants
Total number of observations	145,404	6,527
Gender:		
Male	55.4	57.9
Female	44.6	42.1
Age:		
16–30	19.5	21.5
31–40	25.5	31.9
41–50	26.6	27.9
51–65	28.4	18.8
Primary impairment:		
Musculoskeletal	13.6	12.7
Neurological	5.4	5.6
Mental	38.3	42.4
Other	32.6	33.1
Missing	10.1	6.2
Program group:		
SSI applicant	29.0	27.1
SSI recipient	20.0	18.2
DI beneficiary	43.5	45.7
Concurrent SSI/DI beneficiary	7.6	9.1
Years receiving disability benefits:		
0	24.5	22.9
Less than 2 years	17.5	17.9
2–5 years	22.0	25.9
More than 5 years	36.0	33.4

Source: SSA administrative records.

were conducted with volunteers who completed a baseline interview.[6] The survey instruments contain questions about education and training, health and functional limitations, transportation limitations, employment history and earnings, personal attitudes and outlook, income and benefits, emotional and cognitive status, receipt of training and rehabilitation services from Project NetWork and other sources, respondent assessments of Project NetWork, and knowledge of rules determining benefit levels, eligibility, work incentives, and the effect the demonstration waivers had on these rules.[7]

Impact Estimation Methods

The Project NetWork demonstration featured the use of a classical experiment to test the impact of case and referral management services on volunteers. The evaluation randomly assigned volunteers to either a treatment group (whose members could receive demonstration services) or to a control group (whose members could not receive demonstration services but were free to seek similar services on their own). The post-random assignment experiences of the control group members indicate what would have happened to the treatment group members in the absence of the demonstration services.

Because random assignment generally ensures that the pre-random assignment characteristics of treatment and control groups are similar on average, any post-random assignment differences in outcomes can be interpreted as unbiased estimates of the incremental impact of demonstration services. Other designs for estimating impacts are often subject to selection bias, which will occur if the treatment and comparison groups differ in ways that are correlated with the outcomes of interest. As the participation analysis showed, demonstration volunteers differ from nonparticipants in terms of motivation and other characteristics that are not recorded in administrative records, so it would have been difficult to identify a comparison group of persons similar to the volunteers without the use of random assignment. Impact estimates based on random assignment are also more reliable than estimates based on "pre/post" comparisons of outcomes before and after service receipt, because outcomes often change over the demonstration period for reasons unrelated to demonstration services.

The estimates of impacts of demonstration services measure only the incremental impacts of case and referral management services for the self-selected group of volunteers. The experimental evidence cannot be generalized to the broader population of SSI applicants and recipients and DI beneficiaries, most of whom did not volunteer for the demonstration. For *both* treatment and control groups, the demonstration waived specific DI and SSI program rules considered to act as work

Table 3.—Percentage distribution of reported health status, health-care utilization, and work limitations, by demonstration status

Variable	Demonstration status		
	Treatment	Control	Nonparticipant
Total percent	100.0	100.0	100.0
Health in general:			
Excellent	6.7	6.9	5.5
Very good	12.4	11.9	8.1
Good	32.8	26.4	24.4
Fair	32.5	36.1	33.3
Poor	15.6	18.7	28.7
Physical, mental, or other health condition that prevents work:			
Yes	21.4	29.3	60.1
No	78.6	70.7	39.9
Number of days in bed during last 12 months due to illness or injury:			
None	29.5	29.7	29.1
1–90 days	56.2	57.9	53.8
91–180 days	9.4	8.2	8.5
181 days or more	4.9	4.3	8.6
Ever had to stay in a hospital because of emotional problems:			
Yes	34.5	36.8	27.2
No	65.5	63.2	72.8
Felt depressed or sad much of the time in the past year:			
Yes	44.7	47.3	42.0
No	55.3	52.7	58.0

Note: Distribution and means are weighted to account for differential sampling probabilities.

Source: Project NetWork baseline survey data file.

Table 4.—Percentage distribution and mean CES-D depression scale score, by demonstration status

CES-D score	Demonstration status		
	Treatment	Control	Non-participant
Total number of observations (unweighted)	1,234	1,132	659
Total percent	100.00	100.00	100.00
Percent distribution:			
CES–D ≤ 20	62.90	61.00	64.20
CES–D = 21–40	28.60	30.60	27.80
CES–D ≥ 41	8.50	8.20	8.00
Percent above standard cutoff (CES-D>16)	45.80	47.80	41.50
Mean CES-D score	18.56	19.42	19.22

Note: Distribution and means are weighted to account for differential sampling probabilities.

Source: Project NetWork baseline survey data file.

Table 5.—Percent distribution of Project NetWork baseline survey responses, by self-reported attitudes about work

Survey response and demonstration status	Total percent expressing opinion	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I want to work in order to make more money:						
Treatment	100.0	48.5	44.4	3.2	3.2	0.7
Control	100.0	48.5	45.6	2.6	3.1	.2
Nonparticipant	100.0	29.9	44.0	15.1	10.2	.8
I would be ashamed of myself if I didn't try to work:						
Treatment	100.0	34.5	38.2	10.2	15.0	2.0
Control	100.0	32.7	40.0	9.8	15.2	2.3
Nonparticipant	100.0	15.8	33.8	17.4	30.0	3.0
I am too old to work:						
Treatment	100.0	.5	1.3	4.0	55.8	38.5
Control	100.0	.4	2.3	5.1	56.7	35.4
Nonparticipant	100.0	2.4	7.4	11.2	61.5	17.6
I get lonely when I don't have a job:						
Treatment	100.0	14.4	39.9	17.7	22.1	5.9
Control	100.0	15.1	42.0	12.7	25.2	4.9
Nonparticipant	100.0	7.9	35.7	15.7	35.9	4.9
Work is very satisfying:						
Treatment	100.0	30.5	56.0	11.5	1.6	.4
Control	100.0	30.9	53.4	11.9	3.1	.8
Nonparticipant	100.0	18.7	50.7	23.0	7.0	.7
My family and friends might think poorly of me if I didn't try to work:						
Treatment	100.0	12.7	26.6	23.5	29.7	7.6
Control	100.0	12.6	26.4	22.1	31.7	7.2
Nonparticipant	100.0	4.7	22.3	23.1	45.4	4.5
I really don't want to work: [1]						
Treatment	100.0	.6	2.0	5.5	54.4	37.4
Control	100.0	.9	1.2	7.5	53.7	36.6
Nonparticipant	100.0	3.1	8.4	17.5	53.3	17.8
It would bother me if I didn't try to work:						
Treatment	100.0	25.3	50.6	8.4	11.1	4.7
Control	100.0	22.1	48.9	9.4	14.8	4.8
Nonparticipant	100.0	10.9	34.3	19.2	33.0	2.6
I get bored when I don't have a job:						
Treatment	100.0	27.3	44.4	10.6	15.3	2.4
Control	100.0	26.1	46.0	9.2	16.1	2.7
Nonparticipant	100.0	14.7	37.3	13.9	31.8	2.4
I want to work because that's what I'm expected to do:						
Treatment	100.0	10.8	29.9	22.4	31.5	5.4
Control	100.0	10.8	29.4	23.0	31.3	5.5
Nonparticipant	100.0	7.7	21.5	28.7	39.1	3.0
I really don't want to work[1]						
Treatment	100.0	.5	1.8	6.3	56.3	35.2
Control	100.0	.2	1.5	6.4	56.6	35.3
Nonparticipant	100.0	3.9	9.0	16.5	52.1	18.5

[1] This item was asked twice to test for sensitivity of responses to order of questions.

Note: Distribution and means are weighted to account for differential sampling probabilities.

Source: Project NetWork baseline survey data file.

disincentives, so the experimental impact analysis cannot isolate the effect of these waivers. A nonexperimental analysis (Burstein, Beecroft, Hiller, and Wood 1999) showed no clear evidence of waiver effects on earnings and benefits.

Impacts were estimated by comparing the outcomes of the treatment and control groups, using standard tests of statistical significance to determine the level of confidence we can have that the estimated impact represents a real effect, rather than a difference that could be expected on the basis of chance alone. In this analysis, any estimated impact that is larger than what could be expected on the basis of chance alone 90 percent of the time is deemed evidence of a real effect. To adjust for chance differences between the treatment and control groups and thereby provide more precise impact estimates, treatment/control differences in outcomes have been adjusted by regression analysis wherever possible to account for any chance differences in the measured baseline characteristics of the two groups.

The results of these standard hypothesis tests should be interpreted with care. Whenever an estimated impact is not statistically significant, two explanations are possible. The first is that Project NetWork truly had no effect on the outcome. The second is that Project NetWork really had an impact, but the size of the true impact is too small to detect given the available sample size. Another potential problem with these tests, which are intended to identify effects that have a probability of less than 10 percent of occurring by chance alone, is that there is also a 10-percent chance that a single estimate will be statistically significant by chance alone, even when the true effect is zero. At least a few of these false positives are bound to appear whenever we examine a large number of impact estimates for many outcomes and subgroups.

V. Experimental Analysis of Net Impacts

Impacts on Receipt of Services

According to the followup survey responses, Project NetWork increased the rate of receipt of return-to-work services by a statistically significant amount (table 6). Fully 69 percent of control group members reported receiving employment and rehabilitation services. The most common services were psychological counseling, physical therapy, assessments of work potential, and job search assistance. Project NetWork increased the percentage of volunteers receiving any of these services to 75 percent, a statistically significant impact. Treatment group members received, on average, significantly more job search assistance, business skills training (training in a trade or business school), and assessment of work potential than did their counterparts in the control group. It is important to note, however, that even where statistically significant, these treatment/control service differentials are not large; even without Project NetWork, many volunteers would have obtained services.

Impacts on Earnings

The central goal of the demonstration was to help volunteers become self-sufficient by increasing earned income. The demonstration services could increase participants' earnings directly as a result of the employment-related services, such as job placement, job search activity, and/or vocational skills training. Project NetWork could also increase earnings indirectly through improvements in health or attitudes about working.

Our best source of data on earnings is SSA's Master Earnings File, which provided annual (calendar year) earnings for all 8,248 volunteers from 1990 through 1996. Because impacts may vary over the time elapsed since random assignment, records of calendar year earnings were converted to "followup year" earnings. We defined earnings in followup year 1 as earnings in the first full calendar year after random assignment, which occurred from mid-1992 through mid-1994. The "first followup year" is therefore calendar year 1993 for those randomly assigned in 1992; calendar year 1994 for those randomly assigned in 1993; and calendar year 1995 for those randomly assigned in 1994. Thus, our measure of average earnings in the first followup year includes some earnings obtained after the first 12 months following random assignment. All sample members have at least 2 followup years of information. Roughly 70 percent of the 8,248 volunteers who were randomly assigned before 1994 have a third followup year

Table 6.—Receipt of education, training, and rehabilitation services: The followup survey sample[1]

[In percent]

Service received since random assignment	Control group	Treatment group
Job search assistance	14	21 ***
Business skills training	6	11 ***
Job-related training	10	12
Other rehabilitation/training	2	1
Life skills training	6	6
Occupational therapy	4	4
College classes	10	8
Assessment of work potential	17	27 ***
Physical therapy	23	23
Psychological counseling	38	41
Any service	69	75 **

[1] Sample sizes include 786 in the treatment group, 735 in the control group, and 1,521 in total.

Note: * Statistically significant at the 10-percent level.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

Also note that treatment group means are regression-adjusted to account for differences in the measured baseline characteristics of the treatment and control groups.

Source: Project NetWork Followup Survey.

of information. To protect confidentiality, all means and standard deviations of annual earnings for treatment and control group members were calculated by SSA staff. These estimates were used to estimate impacts and test their statistical significance without the use of regression adjustment.

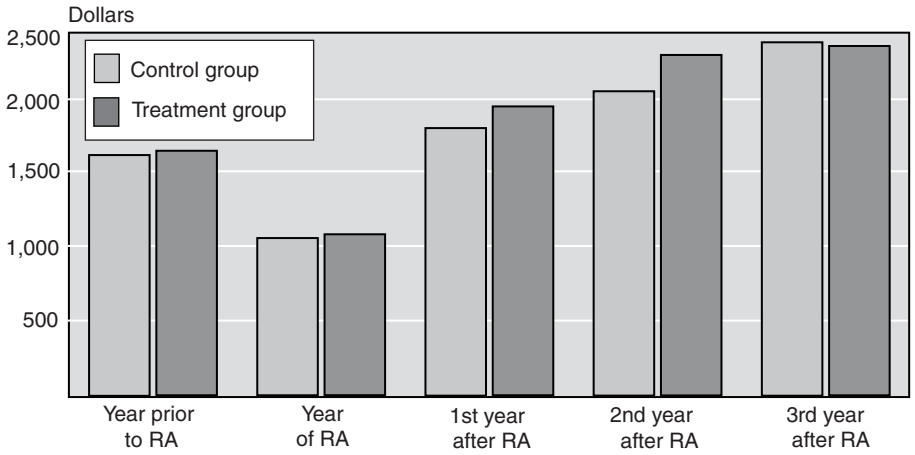
The estimates of the impacts of Project NetWork on earnings are summarized in chart 2 and table 7. The earnings path of the control group members represents the path that would have been expected for the treatment group in the absence of demonstration services. In the calendar year prior to the year of random assignment, control group members earned an average of $1,616, an amount clearly less than what is needed to be self-sufficient. This average includes some persons with more earnings and a substantial number of persons with no earnings at all. In the year of random assignment, average earnings declined to $1,042. This "pre-program dip" in earnings may have inspired these persons to volunteer for assistance and is common among low-income persons who volunteer for return-to-work services. After the random assignment, average annual earnings increased to $2,427 by the third followup year, as some found ways to overcome barriers to work without the aid of Project NetWork.

For treatment group members, Project NetWork services increased earnings by a statistically significant amount during the first 2 years after the year of random assignment. During the year prior to random assignment and the year of random assignment, average annual earnings of the treatment group and the control group are very similar, a finding that is consistent with the conclusion that random assignment was successful. Project NetWork services increased the average earnings of the treatment group by $215 in the first followup year and by $224 in the second followup year. The average impact on annual earnings during these 2 followup years was a statistically significant $220, an 11-percent increase.[8] The estimated impact of Project NetWork on earnings in followup year 3 is, however, essentially zero. This estimated impact—the best available evidence as to whether the effects of Project NetWork are long-lasting or temporary—was estimated using only the 5,908 persons randomly assigned in 1992 or 1993.[9]

Evidence from the followup survey indicates that the incremental increase in services achieved by Project NetWork caused an immediate but short-lived increase in average annual earnings by increasing the average length of time at work rather than hourly wages. The survey evidence indicates that Project NetWork increased the average number of months in which volunteers were employed. During the second followup year, for example, control group members were employed for an average of 3.5 months of the year, while treatment group members were employed for about 4.2 months of the year—a statistically significant impact of 0.7 months. Project NetWork did not have a statistically significant impact on the percentage of persons earning specific ranges of hourly wages. Among both treatment and control group members who worked, about 60 percent had hourly wages below $6.50, and the rest had hourly wages greater than $6.50.[10]

Even though the estimated impacts on earnings are statistically significant, they are not enough to make substantive improvements in the living standards of the average participant. It must be noted, however, that the estimates shown here are averages for the entire treatment group. Project NetWork may have led to substantially larger earnings gains for some participants and little or no gain for others—either because some individuals did not avail themselves of the services offered, or because those services were inherently more effective for some sample members than for others. While due to sample size limitations we could not positively identify such subgroups, some of the estimates are suggestive for potentially larger effects for some subgroups. For example, estimated impacts were relatively high for DI-only beneficiaries and for those with a primary impairment other than mental, neurological, and musculoskeletal. Estimated impacts were relatively high for males and those in the 31–45 age group. Overall, case management models offering more intensive services seem to have produced relatively large estimated impacts. Site differences were also substantial. This may suggest that local implementation and conditions matter in terms of the size of estimated earnings effects, although other explanations are possible as well. We cannot draw strong conclusions here due to sample size limitations and the number of important variables that are associated with the site.

Chart 2.—Project Network treatment and control group mean annual earnings before and after random assignment (RA) year



Impacts on SSI and DI Benefit Receipt

It was hoped that the increase in earnings achieved by Project NetWork services would also lead to a reduction in the average value of volun-

teers' monthly SSI and DI benefits. This reduction in average benefits would reduce the costs borne by SSA, perhaps enough to offset the costs of Project NetWork services. Given the recent growth in the number of persons receiving disability benefits, it is of interest to know whether services of the type provided in the demonstration could decrease caseloads and/or lower benefit costs.

Because we have monthly data on benefits, we define the "first followup year" as the 12 months immediately after the month of random assignment. Because random assignment occurred between mid-1992 and mid-1994, these followup periods usually do not correspond to calendar years, and they vary depending on the month of random assignment. Benefits are expressed in terms of 1996 dollars. To adjust for any chance differences between treatment and control groups and to improve the precision of our estimates, we have estimated impacts by employing standard regression adjustment to control for measurable characteristics defined at or before random assignment.[11]

The use of SSI and DI benefits declined by modest amounts for control group members over the followup period (table 8). Using more detailed monthly data[12] we find that the percentage of persons receiving SSI declined from 39 percent in the month of random assignment to 34 percent in followup months 25–30.

Table 7.—Estimated impacts on annual earnings, by followup year, based on administrative records for full sample[1]

Followup period	Average annual earnings for control group	Estimated impact	Standard error
Year before random assignment	$1,616	$14	$98
Year of random assignment	1,042	32	61
Year 1	1,757	215 **	96
Year 2	2,106	224 **	114
Years 1–2	1,931	220 **	99
Year 3	2,427	-22	147

[1] For results in year 1, year 2, and years 1-2, sample sizes include 4,160 in the treatment group, 4,088 in the control group, and 8,248 in total.

For results in year 3, sample sizes include 2,981 in the treatment group, 2,927 in the control group, and 5,908 in total.

Note: * Statistically significant at the 10-percent level.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

Also note that earnings data are available for calendar years only, from 1990 through 1996. Random assignment occurred between mid-1992 and mid-1994. "Followup Year 1" is defined as the first full calendar year after the month of random assignment. For those randomly assigned in 1994, only 2 followup years of earnings data are available.

Source: Earnings data are annual earnings data from the Master Earnings File (MEF).

The percentage of persons receiving DI declined from 51 percent in the month of random assignment to 48 percent in followup months 31–42. Average monthly benefits for all persons (including those receiving no benefits) also declined by small amounts. The percentages of persons in the treatment and control groups receiving SSI and/or DI benefits during each of the months in the followup period are shown in charts 3–6.

While Project NetWork increased earnings, it did not reduce SSI or DI benefit receipt for the full sample of volunteers. Overall, it had a negligible, statistically insignificant impact on all measures of benefit receipt over the followup period. The point estimates of impact are never more than about 1 percent of the control group mean values. In addition, there are no time trends in these impact estimates: in each followup period, Project NetWork had a negligible effect on benefit receipt.[13]

Table 8.—Estimated impacts on benefit receipt, by followup period for full sample[1]

Followup period	Control group	Estimated impact	Standard error
	Percentage of months receiving SSI		
Months 1–12	37.1	0.1	0.4
Months 13–24	34.9	.0	.6
Months 25–30	33.8	-.1	.6
Months 1–30	35.5	.0	.5
	Percentage of months receiving DI		
Months 1–12	52.8	-0.4	0.3
Months 13–24	51.5	-.5	.5
Months 25–30	49.6	-.5	.6
Months 31–42	47.7	-.6	.6
Months 1–42	50.5	-.5	.4
	Average monthly SSI benefits		
Months 1–12	$117	$0	$1
Months 13–24	108	0	2
Months 25–30	104	-2	2
Months 1–30	111	-1	2
	Average monthly DI benefits		
Months 1–12	$323	-$3	$2
Months 13–24	315	-4	3
Months 25–30	302	-3	4
Months 31–42	290	-4	5
Months 1–42	308	-3	4

[1] Sample sizes include 4,160 persons in the treatment group, 4,088 in the control group, and 8,248 in total.

Note: * Statistically significant at the 10-percent level.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

Source: Administrative data on benefit receipt are from the MBR810/811 and SSR831 source files.

Impacts on Measures of Health and Well-Being

Project NetWork helped participants obtain several types of services—physical therapy, occupational therapy, and psychological counseling—that could improve the health of participants and help them gain a more positive outlook. The measures of health and well-being we use are based on respondents' answers to a series of questions about self-assessed health, disabilities, work limitations, and cognitive and emotional state. The meaning of many questions is less clear-cut than questions about earnings; phrases such as "good health" and "difficulty hearing or speaking" could mean different things to different respondents. These reporting errors will increase the variance of the outcome measures and thus increase the size of impact estimates we can detect as statistically significant. Because of this problem and because of the limited available sample of survey respondents, we can only detect fairly large effects as statistically significant; smaller but genuine impacts that may have occurred will be statistically insignificantly different from zero. To improve the precision of the impact estimates, we use regression adjustment to control for baseline characteristics obtained from administrative data and the baseline survey.

Chart 3.—Impacts on SSI participation rates for those receiving only SSI at random assignment, by experimental group assignment

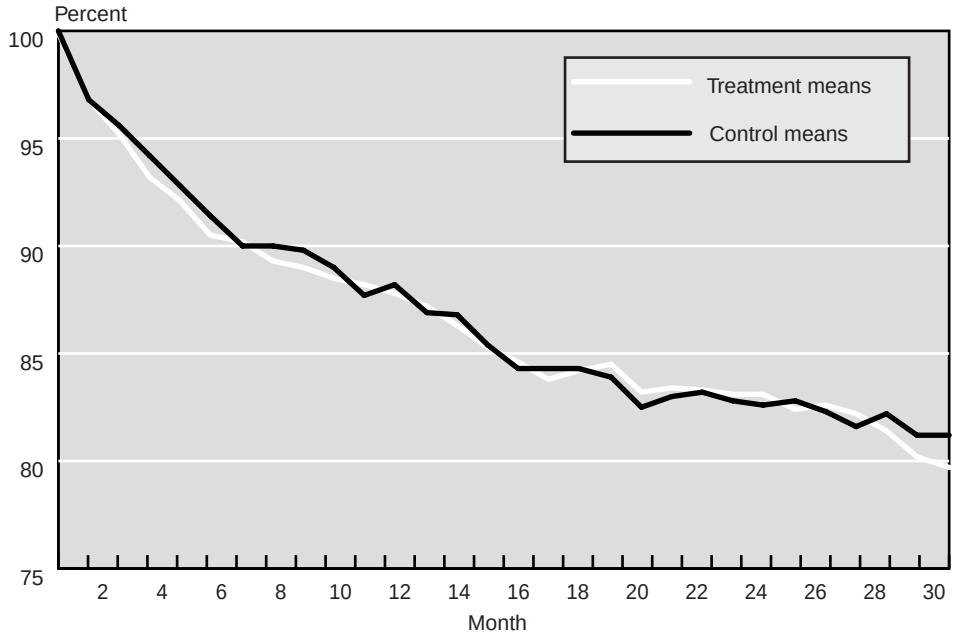
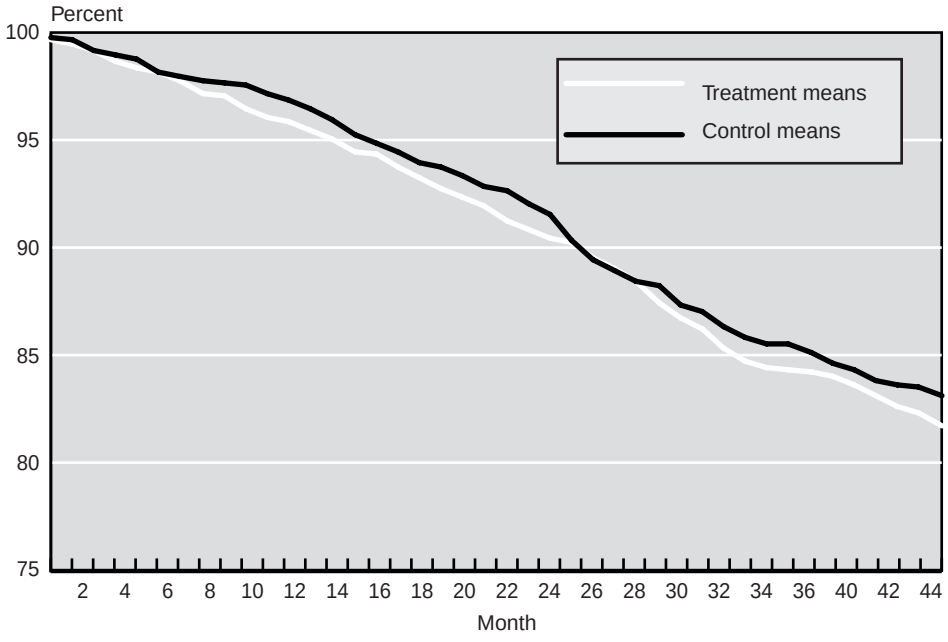


Chart 4.—Impacts on DI participation rates for those receiving only DI at random assignment, by experimental group assignment



We find that Project NetWork's case and referral management services generally did not have statistically significant effects on the measures of health and well-being collected in the followup survey (table 9). Project NetWork did increase by about 5 percentage points the proportion of respondents who stated that they were better off at the interview date than a year before, as well as the proportion anticipating improvement during the next year. This impact, however, was not corroborated by improvements in more objective measures of health and well-being, including average scores on the Mini Mental State Examination (MMSE), which measures cognitive impairment, and average scores on the Mental Health Inventory (MHI).[14]

These survey responses also confirm that Project NetWork volunteers continue to face serious barriers to gainful employment. Only about 19 percent of treatment group members rated their health as excellent or very good, and a substantial number reported having three or more functional limitations or life skills limitations. About 35 percent said their

health condition prevented them from working at all, 27 percent said their disability prevented full-time work, and over 40 percent reported transportation problems that limited their ability to work. Many participants continued to face severe emotional problems. Almost two-thirds felt sad, blue, or depressed for at least 2 weeks over the previous year.

Chart 5.—Impacts on SSI participation rates for those receiving both SSI and DI at random assignment, by experimental group assignment

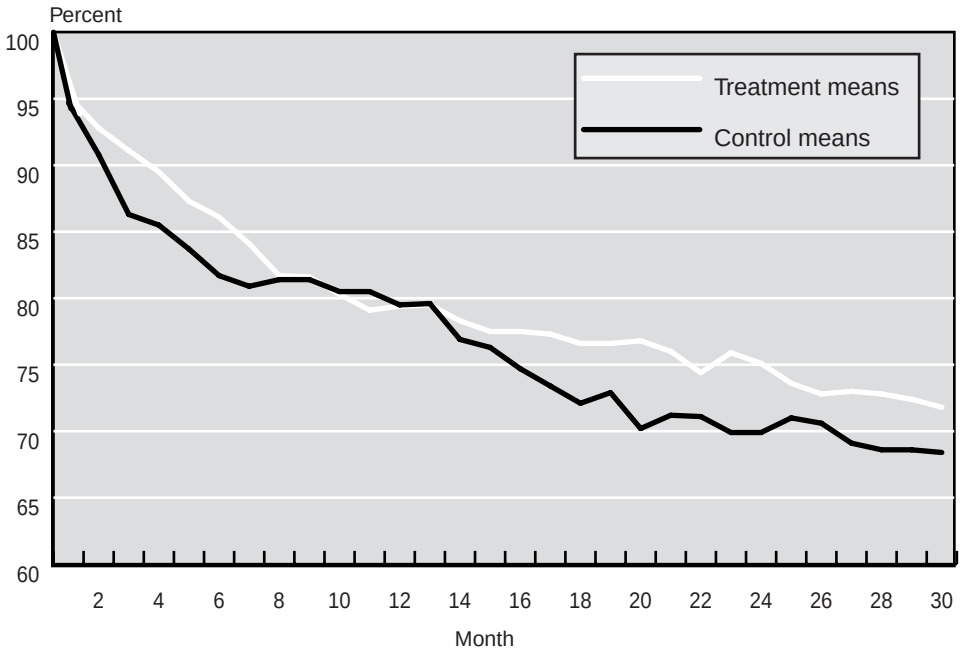
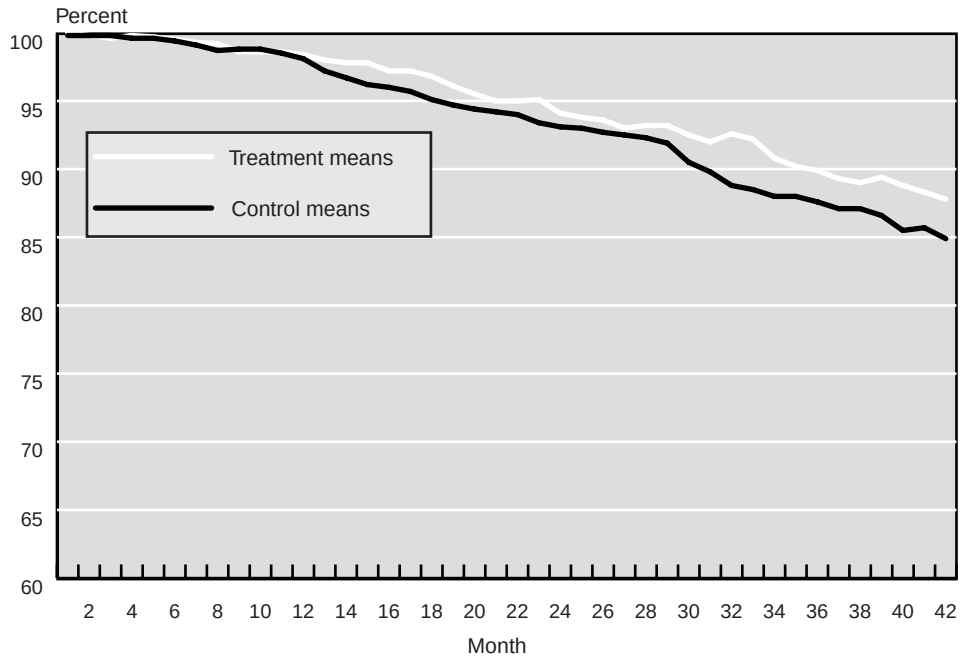


Chart 6.—Impacts on DI participation rates for those receiving both DI and SSI at random assignment, by experimental group assignment



VI. Experimental Analysis of Net Impacts on Key Subgroups

In an effort to understand whether Project NetWork had larger effects on some persons in our sample, we estimated impacts for several subgroups of interest. Interpreting estimated impacts for subgroups requires caution. Whenever we analyze impacts for subgroups, the sample size declines, and the standard errors of estimates for many of the subgroups become quite large, so that only large impacts could be detected as statistically significant. We also have to be concerned about "false positives" with a large number of subgroup impact estimates because there is some chance that any given estimate will be statistically significant by chance alone, even when the true effect is zero. Finally, even when we do find statistically significant impacts for subgroups that we believe are real effects, the interpretation of these findings is often unclear.

Title of Eligibility

Volunteers who received SSI only, DI only, both SSI and DI (concurrent recipients), or neither benefit in the month of random assignment could have very different characteristics. DI beneficiaries must have prior work experience to qualify for DI benefits, while SSI recipients tend to have relatively less work experience. Those receiving neither benefit at random assignment include several groups who may be very different from ongoing SSI and DI participants. Some were new SSI applicants who were recruited by Project NetWork. Also included are persons recruited from other programs, such as mental health services, and persons who had received either SSI or DI just before random assignment and then left these programs. The estimates of impacts on these "title of eligibility" subgroups are shown in charts 3–6 and in table 10.

Charts 3–6, which present month-by-month participation rates in SSI and DI for treatment and control

Table 9.—Estimated impacts on selected measures of health and well-being

[In percent]

Measure	Control group mean	Estimated impact	Standard error
Overall health			
Self-reported health excellent or very good	19.3	-0.2	2.1
Self-reported health improved since date of random assignment	19.2	.4	2.3
Functional and life skills limitations			
Has three or more functional limitations	41.8	2.3	1.8
Has three or more life skills limitations	26.5	1.9	2.3
Alcohol and drug use			
Self-reported excessive drinker since date of random assignment	11.3	-.3	1.8
Used drugs to get high since the date of random assignment	13.0	2.0	1.9
Emotional problems			
Stayed overnight in a hospital because of emotional problems since date of random assignment	12.9	1.7	1.9
Mental health			
Mental Health Inventory (MHI) scale score	14.4	-.2	.3
Felt sad, blue, or depressed for 2 weeks or more over the past year	62.6	.3	2.7
Better off today than a year ago	59.7	5.0	2.9
Things will be better a year from now	65.8	5.2	2.9
Mini Mental State Examination (MMSE) scale score	27.2	-.2	.1
Work limitations			
Illness/injury kept respondent in bed at least 7 days during previous 12 months	40.6	3.1	2.6
Health condition prevents work	39.3	-3.9	2.6
Health condition prevents full-time work	29.6	-2.9	2.4
Transportation problems limit ability to work	40.4	1.1	2.6

[1] Sample sizes include 786 persons in the treatment group, 735 in the control group, and 1,521 in total.

[2] Functional limitations include difficulty seeing words, hearing a conversation, speaking, lifting 10 pounds, walking up a flight of stairs, walking 3 city blocks, or using a telephone.

[3] Life skills limitations include getting around inside or outside the home, getting out of bed or out of a chair, taking a bath or a shower, dressing, eating, using the toilet, keeping track of money, preparing meals, or doing light housework.

Note: * Statistically significant at the 10-percent level.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

Source: Project NetWork Followup Survey.

group members, show that these subgroups define very different groups of persons with distinct patterns of benefit receipt. The monthly participation rates for each type of benefit are estimated using the full sample receiving that benefit at random assignment. In each of these subgroups, the percentage of persons receiving either SSI or DI declined very slowly over the 30- or 42-month followup period. After 30 months, about 80 percent of persons who received SSI at random assignment continued to receive SSI. After 42 months, about 82 percent of persons who received DI at random assignment continued to receive DI. The charts show that the net effect of Project NetWork services is essentially zero.

Estimated impacts on average earnings were statistically significant and largest for the subgroup who received DI only at random assignment (table 10). It is possible that Project NetWork produces larger earnings gains for these persons because they have more work experience and perhaps need fewer services to return to work, and because the waiver provisions produce a stronger incentive to increase earnings for this group than for SSI-only recipients. On the other hand, the estimated impacts on earnings for this group were not statistically significantly different from estimated impacts for those who received SSI only at random assignment or who were solicited as SSI applicants but did not receive benefits at random assignment. We therefore cannot conclude definitely that the program had larger effects on earnings for DI beneficiaries than for SSI recipients, but the DI estimates are encouraging.

Project NetWork reduced benefit receipt by statistically significant but minor amounts among those receiving neither SSI nor DI at random assignment. Most of those receiving neither type of benefit at random assignment include SSI applicants whose applications had been denied or were still pending; for this group, the program also reduced benefit receipt by a statistically significant amount.[15] This subgroup had the weakest attachment to SSI or DI; even among control group members in this group, average monthly SSI and DI participation rates were under 10 percent. The estimated impacts on benefit receipt for the other three title of eligibility subgroups (those receiving SSI only, DI only, or both SSI and DI at random assignment) were mostly much smaller and insignificantly different from zero.

Project NetWork had its largest effect on SSI and DI benefit receipt among SSI applicants who were not receiving benefits initially, yet generally no impacts on groups with much more lasting attachment with the SSI and DI programs. We can think of two possible explanations. The first is an "entry effect": Project NetWork's case management and referral services helped participants find services so they could avoid relying on SSI and DI benefits later. The second is a "deterrence" effect: some treatment group members incorrectly thought they had to participate in unwanted services to obtain SSI or DI and chose to give up these benefits. In addition, for persons already on the SSI or DI disability rolls, the incentives to stay on the rolls are strong.

Table 10.—Estimated impacts on benefit receipt and earnings: Subgroups defined by title of eligibility at random assignment[1]

Followup period	Control group	Impact	Standard error
	Received SSI only		
Percentage of months receiving SSI, months 1–30	86.8	-0.2	1.1
Percentage of months receiving DI, months 1–42	7.4	-.5	.9
Average monthly SSI benefits, months 1–30	$343	-$4	$5
Average monthly DI benefits, months 1–42	$42	-$6	$6
Average annual earnings, followup years 1–2	$893	$167	$104
	Received DI only		
Percentage of months receiving SSI, months 1–30	3.3	0.2	0.5
Percentage of months receiving DI, months 1–42	91.9	-.7	.7
Average monthly SSI benefits, months 1–30	$4	$2 *	$1
Average monthly DI benefits, months 1–42	$628	$2	$8
Average annual earnings, followup years 1–2	$2,048	$326 *	$179
	Received both SSI and DI (concurrent beneficiaries)		
Percentage of months receiving SSI, months 1–30	76.7	2.8	1.7
Percentage of months receiving DI, months 1–42	93.6	1.3	1.0
Average monthly SSI benefits, months 1–30	$116	$4	$5
Average monthly DI benefits, months 1–42	$383	-$5	$8
Average annual earnings, followup years 1–2	$1,279	-$30	$187
	Received neither SSI nor DI		
Percentage of months receiving SSI, months 1–30	5.4	-1.7 **	0.8
Percentage of months receiving DI, months 1–42	4.9	-1.8 ***	.7
Average monthly SSI benefits, months 1–30	$18	-$8 ***	$3
Average monthly DI benefits, months 1–42	$31	-$10 *	$5
Average annual earnings, followup years 1–2	$3,910	-$15	$369
	Received neither SSI nor DI (SSI applicants)		
Percentage of months receiving SSI, months 1–30	5.3	-2.0 **	0.9
Percentage of months receiving DI, months 1–42	4.6	-1.9 **	.8
Average monthly SSI benefits, months 1–30	$18	-$8 ***	$3
Average monthly DI Benefits, months 1–42	$27	-$9	$6
Average annual earnings, followup years 1–2	$3,519	$126	$285

[1] Sample sizes for groups who received (at random assignment)—
SSI only: 1,096 in the treatment group, 1,064 in the control group, and 2,160 in total;
DI only: 1,570 in the treatment group, 1,556 in the control group, and 3,136 in total;
both SSI and DI: 553 in the treatment group, 539 in the control group, and 1,092 in total;
neither SSI nor DI: 941 in the treatment group, 929 in the control group, and 1,870 in total; or
neither SSI nor DI (SSI applicants): 701 in the treatment group, 712 in the control group, and 1,413 in total.

Note: * Statistically significant at the 10-percent level.
** Statistically significant at the 5-percent level.
*** Statistically significant at the 1-percent level.

Source: Administrative data on benefit receipt are from the MBR810/811 and SSR831 source files. Earnings data are annual earnings data from the Master Earnings File (MEF).

Types of Primary Impairments

Persons with different types of impairments face different barriers to employment and self-sufficiency. Accordingly, we examined the impacts of Project NetWork on benefit receipt among persons grouped in four major categories of primary impairment.

(1) Mental impairments including psychoses, mood disorders, neuroses, schizophrenia, and mental retardation

(2) Neurological impairments, which are diseases of the central nervous system

(3) Musculoskeletal impairments

(4) Other impairments[16]

The demonstration generally did not produce statistically significant impacts on measures of benefit receipt or earnings within these primary impairment subgroups. The only statistically significant effect on benefit receipt over the followup period as a whole was among those with impairments affecting the musculoskeletal system, for whom Project NetWork reduced the percentage of persons receiving DI benefits by an average of 2.1 percentage points.

The only subgroup for which earnings impacts were ever significantly different from zero was the subgroup with "other impairments." This group showed an average annual earnings gain of $347 over the first 2 followup years, a 17-percent gain. However, an F-test indicates that the estimated impact for those with "other" impairments is not statistically significantly different from the estimated impact for the combined sample of those with mental and musculoskeletal impairments. Therefore, we cannot definitely conclude that Project NetWork produced greater effects on this subgroup than on persons with mental or musculoskeletal impairments, but the results are suggestive of possibly relatively large effects on the subgroup with "other impairments."

VII. Project NetWork Costs and Benefits

The benefit/cost analysis[17] asks whether key groups were made better off or worse off as a result of the demonstration. The key groups are the demonstration volunteers, the Social Security Administration, the federal government as a whole, and state governments. We compare benefits and costs of the treatment group and the control group.

The definition of "costs" and "benefits" differs for each of the key groups.[18] From the perspective of the persons with disabilities who volunteered for the demonstration, the benefits of Project NetWork include mainly increases in earnings net of taxes paid, while costs include mainly the reductions in benefits from SSI, DI, and other programs. From the perspective of SSA, reductions in SSI and DI payments are a benefit, and direct expenditures on the demonstration, which were all incurred by the agency, are a cost. From the perspective of the entire federal government, any reductions in food stamps or Medicaid payments and any increases in federal income or payroll taxes are an additional benefit. The perspective of state and local government captures Project NetWork's impacts on state income taxes, Medicaid expenditures, and state VR agency costs, which were reduced because Project NetWork funded these services.[19]

Project NetWork Expenses

Based on the administrative data from the MIS file on services purchased under Project NetWork, the average total Project NetWork expenditure per treatment group member was $3,660, which includes $2,397 for site operations (management and some direct service provision), $264 for assessment services, $212 for central administration, $625 for employment and training services, $63 for medical treatments, and $99 for other services. These costs varied considerably by site. The highest costs, in Richmond ($5,305 per treatment group member) and Dallas ($4,326), were about twice the average cost in Tampa ($2,129) and Spokane ($2,180), which relied primarily on referrals to other programs that provided services at no cost to the demonstration rather than direct service provision.[20]

Non-NetWork Expenses

The benefit/cost analysis must take into consideration expenditures on the treatment group made by all outside organizations, even if Project NetWork did not reimburse these expenditures. In some cases, the receipt of such services was the result of referrals and other arrangements made by site staff. In other instances, Project NetWork participants found these services on their own. The control group was also free to receive non-NetWork services. Thus, it was necessary to measure non-NetWork costs for both the treatment and the control groups, using survey data on receipt of services and state VR data on unit cost.[21]

As one might expect, the estimated non-NetWork expenditures for the control group were higher than for the treatment group. The cost of non-NetWork services is estimated to be $326 per treatment group member and $1,779 per control group member. As a result, there is an estimated non-NetWork cost saving of $1,453 per treatment group member, which offsets about 40 percent of the direct cost of the Project NetWork demonstration. Most of this estimated saving reflects the higher use of non-NetWork physical therapy, counseling, job search assistance, and other job-related training services by control group members, along with the non-NetWork assistance with transportation and other needs.

The full cost of the services received by the treatment group was $3,986, including $3,660 in direct Project NetWork costs and $326 for non-NetWork expenditures. This is the *gross cost* of the Project NetWork treatment. This means that the *net cost* of the Project NetWork treatment was $3,986 (the gross cost of services provided to treatment group members) minus $1,779 (the cost of the services they would have received in the absence of Project NetWork), which is $2,207. The net cost for Richmond, $3,826 per treatment member, was the highest among

the eight demonstration sites. In contrast, the net costs for the Spokane and Tampa sites were less than $1,000. These were the two sites that relied primarily on referrals to other programs, rather than direct service provision.

Earnings, Fringe Benefits, and Tax Payments

The net present value of earnings gains over the evaluation's observation period, which lasted from random assignment through calendar year 1996, was $509 per treatment group member for the full sample.[22] The compensation of individuals also included fringe benefits, notably legally required benefits, employer-paid health and life insurance, pension contributions, and workers' compensation. Based on national data obtained from the U.S. Census Bureau,[23] these benefits were estimated to be 15 percent of earnings, or $69 per treatment group member, lifting the overall compensation gain for the full sample to $585.

Because of Project NetWork's impact on earnings, there was a small increase of $18 in the taxes paid by the eligible population, estimated as the change in federal and state income taxes, Social Security taxes, and state sales and excise taxes paid by members of the treatment group. Federal and state tax rules in effect in 1994—including rules for tax credits such as the federal Earned Income Tax Credit (EITC)—have been applied to the earnings and (where appropriate) SSI and DI payments of individuals in the treatment and control groups during the observation period. Social Security payroll taxes increased by $39 per treatment group member. There was a net reduction of $31 in federal income taxes because Project NetWork's earnings gain led to an average increase in the EITC, which was larger than the increase in income taxes. The estimated increase in state income and sales taxes was only $10 per treatment group member because increases in these taxes due to earnings gains were partly offset by reductions due to SSI and DI payment reductions.

Table 11.—Benefits and costs to Project NetWork volunteers

[In 1994 dollars]

Component	Costs
SSI and DI payments……..	-$191
Other transfer payments…….	23
Earnings and fringe benefits……..	585
Tax payments…….	-18
Net present value……	**$399**

Transfer Payments and Administrative Costs

Tables 11 and 12 summarize the benefit/cost analysis. The net present value of reductions in SSI and DI benefits over the observation period was $191 per treatment group member (table 11).[24] Project NetWork had very minor effects on other transfer payments (food stamps, Medicaid, and Unemployment Insurance) and administrative costs; these components were estimated with the help of survey data and other data sources on transfer payments and administrative costs.

Final Results

As indicated in table 11, the demonstration produced modest economic gains for volunteers with disabilities, mainly because gains from earnings and fringe benefits easily exceeded costs from lost SSI and DI benefits. Overall, the demonstration produced a net present value of $399 per treatment group member during the observation period. The conclusion that the program is cost-effective for the volunteers is not sensitive to methods for calculating values of taxes and other transfer payments because impacts on these outcomes are very small relative to earnings.

On average, Project NetWork generated greater costs than savings for taxpayers (table 12). For all levels of government combined, the savings in SSI and DI benefits during the observation period, together with reduced service costs in other programs and increases in tax payments, are not enough to offset the net cost of the demonstration program. The same conclusion holds for the Social Security Administration and other federal agencies. State and local governments, however, enjoyed savings due to the displacement of VR services by demonstration services. The conclusions for this perspective are not likely to be dependent on assumptions regarding future program effects or methods for calculating effects on

Table 12.—Benefits and costs to SSA, other federal government agencies, and state government agencies

[In 1994 dollars]

Component	All levels of government	Social Security Administration	Other federal government	State and local government
SSI and DI payments…….	$191	$185	$0	$6
Other transfer payments…….	-23	0	-16	-8
Transfer program administration……	2	4	-1	-1
Tax payments…….	18	39	-31	10
Project NetWork costs…..……..	-3,660	-3,660	0	0
Non-NetWork costs..……..…….	1,453	0	0	1,453
Net present value……..……..	-2,019	-3,432	-48	1,460

taxes. How the benefits to participants should be weighed against costs to others involves a value judgment policymakers must make.

VIII. Lessons for the Design and Implementation of Future Demonstration Evaluations

The Project NetWork demonstration has shown that rigorous evaluation—featuring experimental impact analysis of randomly assigned treatment and control groups supplemented by careful process studies and analyses of program participation—can be implemented and can provide a great deal of useful information about the effects of social programs. Case and referral managers successfully maintained separate policies for treatment and control groups in the same small geographic areas. The experimental net impact estimates provided convincing evidence about program effects but did not answer all important questions. The process study was necessary to describe program implementation in detail and to show whether implementation was successful. The analysis of the decision to participate was needed to show that Project NetWork participants were substantially different from eligible nonparticipants in many ways, so that the experimental impact findings cannot be generalized to all eligibles. At the same time, the process study alone may have provided an overly optimistic assessment of the effects of Project NetWork services. Only by reading all of these studies together can we get a full sense of what happened under Project NetWork.

The experimental net impact estimates clearly provided a more realistic impression of the effects of the program than nonexperimental methods. For example, "pre/post" comparisons that ignore the experiences of the control group would have greatly overstated the incremental effect of case and referral management services on earnings. From the year before random assignment to the second year after random assignment, average annual earnings of treatment group members increased by about $700. The experimental estimate of the net impact on earnings in the second year after random assignment was only about $200. Similarly, average benefits received declined over the followup period, but the experimental estimate of the impact on benefit receipt was essentially zero. The experimental estimates accounted for the changes over time in outcomes that would have occurred even in the absence of case management services—the control group experience.

Another valuable lesson is that the SSA national administrative records database was a useful, cost-effective tool in this evaluation. It was feasible to use these records to simulate the pool of 138,613 nonparticipating eligibles based on these records and some knowledge of the outreach process. This simulation (summarized in Rupp, Driessen, Kornfeld, and Wood 1999) enabled us to analyze the participation decision by comparing nonparticipating eligibles with participants and also played a key role in a nonexperimental analysis of the effects of the waivers, which were given to both treatment and control groups. Administrative records provide accurate information on benefit receipt, demographic characteristics, impairments, and annual SSA-covered earnings. These data could be obtained for large samples and indefinite followup periods at minimal marginal cost. In contrast, personal surveys cover only a small subset of the sample of eligibles and are far more expensive to obtain. Nevertheless, personal surveys provide additional, important details on income sources, jobs, health conditions, attitudes, and service receipt.

IX. Implications for New Initiatives

Since the early nineties when Project NetWork was initiated, a number of new approaches have been proposed and implemented to assist disability beneficiaries to successfully transition from benefit recipiency status to work and self-sufficiency. Probably the most important recent initiative has been the Ticket to Work and Work Incentives Improvement Act of 1999.

The results of the Project NetWork demonstration are not directly generalizable to more recent initiatives because the bundle of interventions is substantially different for each initiative. In this respect it is useful to distinguish between service provision changes (changes in the services offered) and system changes (changes in the incentives that alter the environment in which such services are offered). For example, dramatically altering provider incentives, as envisioned by the Ticket program, or substantially modifying beneficiary incentives ($1 for $2 benefit reduction demonstration envisioned by the 1999 Ticket legislation) alters the service provision environment. As a result, these changes may alter the potential benefits of case management services if they are offered under the new Ticket/$1 for $2 schemes.

Section 101 of the Ticket to Work and Work Incentives Improvement Act of 1999 instructs the program manager to assure access to a range of services, including case management, under the Ticket program. While the net outcomes of case management under Project NetWork were modest in terms of earnings and disappointing in terms of reduction of benefits, this does not necessarily imply that the same results would apply under the Ticket program where case management becomes part of a different bundle of services under very different incentive structures and service delivery mechanisms.

Project NetWork offers a number of lessons in a variety of areas, such as the design of case management interventions, outreach, and the management information system requirements of successfully implementing new interventions. However, it suggests caution in the design of case management interventions that is cognizant of the substantial costs of case management services and the need to target case management wisely to achieve positive outcomes. The language of the Ticket legislation is wise in allowing, but not requiring, case management. This may provide the needed flexibility. The Ticket structure implies strong incentives, at least initially, for providers to target the most job-ready among SSA beneficiaries. Case management services may not be needed for this population. However, the legislation envisions an increase in the aggregate

proportion of persons going through some type of services (vocational rehabilitation, employment, or other support services). As services are extended to this less job-ready population, the need for some kind of case management becomes likely and may be successful if employment networks operate within a well-designed system.

The Project NetWork net outcome results suggest that the least intensive intervention tested—referral manager model—appeared to be the least successful in producing positive net outcomes for beneficiaries (Kornfeld and others 1999). This suggests that if case management is to be used, it has to be well targeted toward less job-ready candidates who nevertheless have a potential for successful work outcomes. The fact that Project NetWork net earnings outcomes declined to zero after 2 years also suggests that some beneficiaries may need ongoing support to maintain initially positive outcomes. The service providers, who under the Ticket program have a financial interest for their clients staying off the rolls for 60 months, are given an incentive to provide such ongoing support as needed.

In addition to case management, Project NetWork included outreach services and the provision of work-incentive waivers. There are several lessons from these components of the demonstration that are relevant and go beyond the narrower focus on case management.

The preamble to the Ticket to Work and Work Incentives Improvement Act of 1999 envisions the doubling of successful return to work among beneficiaries. The provisions of Subtitle C of Title I are important in providing for intensive outreach and the dissemination of accurate work-incentive information. Project NetWork provides some useful information with respect to both.

Project NetWork included a combination of extensive outreach through mailings and other means covering DI beneficiaries and SSI applicants and recipients, and more intensive, one-on-one direct contact with interested beneficiaries to provide oral explanations of work-incentive provisions to assure that volunteers participated in the demonstration based on accurate information. This combination of extensive outreach and direct contact with beneficiaries was successful in increasing participation in this employment-oriented intervention. This is an important lesson, since providers under the Ticket program face incentives to serve the most job-ready, but if the legislation is to be successful both in terms of overall objectives and net outcomes, it will be necessary to have successful outreach to a broad array of potentially interested applicants and beneficiaries. Given the financial incentives, we would assume that the employment networks would actively pursue beneficiaries and provide them with explanations of work-incentive provisions.

The Project NetWork experience suggests that combining extensive outreach with direct phone and/or face-to-face beneficiary contact may be essential to increase beneficiary participation and to provide accurate information. The mailings to beneficiaries were useful to provide a low-cost method of identifying potential candidates for employment intervention through self-screening. However, the case studies indicated that those who received the mailings often ignored or misinterpreted the content of the written information. For example, some people thought they would lose benefits if they did not volunteer. The face-to-face contact was useful to reduce such misinformation. The Project NetWork survey information also indicated possible misunderstanding and misinformation of SSA work-incentive provisions, even after direct contact of SSA staff with volunteers.

The new Ticket system will provide new opportunities and potential challenges in this respect. Since most new providers are envisioned to be private organizations, it is likely that outreach will team with advocacy and take on more of a marketing approach. While such an approach would be expected to reduce beneficiaries' fears and possibly increase their expectation for success, it may also reduce the control SSA has over the content of the information provided. It will thus be important for SSA to work with service providers and assist them in developing mechanisms to provide accurate information. Increasing the accuracy of work-incentive information is also critical for the $1 for $2 benefit reduction demonstration. Simply put, if beneficiaries do not receive accurate information on the alternative work-incentive regimes to be tested, that in itself could result in the finding of no impact of "One-for-Two."

Another lesson relates to the management information system requirements of implementing new interventions. The Project NetWork experience indicated that the successful implementation of a new employment initiative requires substantial advance planning and the implementation of MIS systems and other system changes necessary for implementing the new intervention. These activities are necessary not only for the evaluability of the intervention but for the efficient and consistent implementation of the intervention as well.

Project NetWork was successful in creating a workable MIS system. However, the lack of system changes resulted in potentially important problems in implementation and also limited the evaluation. Most importantly, the overall SSA record system for beneficiaries was not changed to fully implement in an automated fashion the waiver provisions of the demonstration. The evaluation suggested that relying on manual systems alone in implementing waiver provisions may have resulted in incomplete implementation of waiver provisions.

Since the changes initiated by the Ticket program and also the $1 for $2 demonstration are much more far-reaching than those that have been included in Project NetWork, appropriate attention to the need to implement changes in SSA data systems is very important. Without accurate system-wide tracking of beneficiaries (including those who move to other states), it may not be possible for SSA to carry out responsibilities to Ticket providers, to report accurate information to the Commissioner so that a review and recalibration of the percentages that form the basis of the Ticket payment system can be made, or to convey accurate information with respect to potential legal disputes concerning payments to providers.

Finally, the Project NetWork experience indicated the

feasibility and importance of designing and implementing a complex evaluation, including a credible method of implementing a net outcome evaluation. It showed that it was feasible to use experimental methods of evaluation and to use available SSA records to track annual covered earnings, SSI payments, and DI benefits.

Notes

Acknowledgments: The authors wish to thank Larry Orr, Michelle Wood, David Long, and Nancy Burstein of Abt Associates for their assistance. John Blomquist, formerly of Abt Associates, also assisted in the impact analysis. Stephen Bell, currently at the Urban Institute, guided the initial design of the impact study and cost/benefit analysis. Extensive guidance and support for the study was provided by Leo McManus, co-project officer, of the Social Security Administration (along with Kalman Rupp). Among the many staff members at SSA's Office of Research, Evaluation, and Statistics who assisted in this study are Jeff Shapiro, Steve Sandell, Charlie Scott, Russell Hudson, Mary Barbour, Joel Packman, and Larry Wilson. The authors are grateful for the efforts of Dianne Driessen, Young Park, Lori Ramsey, and Susie Brenner at Fu Associates, Ltd., for their work in developing the SSI and DI benefit data files. We are thankful for review comments by Howard Iams, Leo McManus, Paul O'Leary, and Jane Ross. The authors also would like to acknowledge the commitment of local staff in the eight demonstration sites. Lastly, Robert Kornfeld acknowledges additional funding from Abt Associates for contributing to the preparation of this article.

[1] Previous publications provided reviews of the demonstration design (Bell and others 1994; McManus, Rupp, and Bell 1993; and Rupp, Bell, and McManus 1994), an analysis of self-selection and targeting for participation based on survey and case study data (Rupp, Wood, and Bell 1996), and an initial summary of the process analysis results (Leiter, Wood, and Bell 1997). The development of the Project NetWork administrative records database and eligibility simulation is summarized in Rupp, Driessen, Kornfeld, and Wood (1999). A series of reports from Abt Associates, the firm chosen to evaluate the demonstration, provide detailed summaries of the final process analysis (Wood, Leiter, McInnis, and Bell 1996), the analysis of participation (Burstein, Roberts, and Wood 1999), the experimental impact and benefit/cost analyses (Kornfeld, Wood, Orr, and Long 1999), and the nonexperimental analysis of the effects of the waivers (Burstein, Beecroft, Hiller, and Wood 1999). Staff at Fu Associates provided valuable assistance with the development of the Project NetWork database, and staff at Lewin-ICF (now the Lewin Group) assisted with the design of the surveys.

[2] As described in detail in Rupp and others (1999), the eligibility simulation is based on a deterministic model applying Project NetWork eligibility rules to the relevant variables from SSA's administrative record database. There is no statistical imputation involved in the procedure.

[3] For all individuals solicited to participate in Project NetWork, we have monthly SSI benefit data from January 1990 through December 1996, and monthly DI benefit information from January 1990 through December 1997. In addition, the file contains information on the total number of months of eligibility for SSI and DI benefits prior to January 1990, and the month and year in which persons were first eligible for SSI or DI. These data were taken from the MBR810/811 and SSR831 files and were created through a collaborative process between SSA/ORES staff, Abt Associates, and Fu Associates. The file creation process is documented in two reports prepared by Fu Associates (1998a, 1998b).

[4] Electronic records of the solicitation process for a period of time after the demonstration started were not kept for the evaluation, so it was necessary to recreate the universe of Project NetWork eligibles using information about the schedule for mail solicitation in each demonstration site, the timing of solicitation of new SSI applicants, and administrative data on the receipt of SSI and DI benefits. Specifically, the analysis sample was constructed by including individuals who, according to administrative records, applied for SSI during the sample intake period or were receiving SSI or DI benefits in the month prior to the scheduled mail solicitation (Rupp and others 1999). These procedures used to obtain the sample of solicited persons and their demographic characteristics are documented in a report produced by Abt Associates (1998).

[5] The Case Management Control System (CMCS) was used to track volunteers who were randomly assigned. The CMCS is also a source of information on years of education and marital status. We used the CMCS to impute a small number of observations of baseline demographic variables that were missing from SSA's administrative files.

[6] The baseline survey response rates were 87 percent for participants, 53 percent for existing beneficiaries and recipients sampled as nonparticipants, and 49 percent for new SSI applicants sampled as nonparticipants. Interviews were attempted with all treatment and control group cases who completed a baseline interview and who were randomly assigned on or after June 1, 1993, to ensure that the recall period between random assignment and the interview would be no more than 36 months. The followup survey response rate was 83 percent. Across the two waves of interviews of volunteers, then, the combined response rate for participants was 72 percent.

[7] The baseline survey was designed by Lewin-ICF (now the Lewin Group), and the followup survey was designed by Abt Associates. All interviews were in-person, and most occurred in the respondent's home. Interviewers administered electronic survey questionnaires using laptop computers and computer-assisted personal interviewing (CAPI) techniques. Most questions required a simple limited-choice answer (for example, yes/no, or "choose one of the following"); only in a few instances were respondents required to provide short-answer responses (for example, type of occupation). Each respondent received $20 upon completion of the interview. SSA was very sensitive to the physical limitations of the population being surveyed. Flash cards listing response categories were used in all interviews. Signers facilitated the interview process for those with hearing impairments, Braille flashcards were used for those with sight impairments, and a Spanish version of the instrument was developed for respondents speaking Spanish as a first language (interpreters were provided as needed for respondents who spoke neither English nor Spanish). In addition, the respondent could make use of a proxy (for example, family member or friend) to assist with their responses.

[8] These impacts are smaller in magnitude than those found in the Transitional Employment and Training Demonstration (Decker and Thornton 1994). In that test of employment services for SSI recipients with a diagnosis of mental retardation, an experimental evaluation found earnings gains of $714 per year, or 73 percent, over a 6-year followup period.

[9] However, the observed decline in estimated impacts from the second to the third followup year is partly caused by the change in

the composition of the available sample. The estimated impacts of Project NetWork on earnings (with asterisks denoting statistical significance) in followup years 1, 2, and 3 were, respectively, -$314, -$413, and -$329 for the 616 persons randomly assigned in 1992; $207*, $154, and $12 for the 5,292 persons randomly assigned in 1993, and $368* and $544*** (no year-3 results) for the 2,340 persons randomly assigned in 1994. Thus, estimated impacts were largest for those randomly assigned in 1994, for whom third-year impact estimates are not available. Had we been able to estimate third-year impacts with the full sample, including those randomly assigned in 1994, the estimated impacts may have remained statistically significantly greater than zero in the third year. On the other hand, the estimated impacts for the large sample of persons randomly assigned in 1993 also declined in size from the first to the third followup year, a pattern of findings that suggests that program impacts do, in fact, decline over time. In sum, the evidence on the duration of impacts on earnings is somewhat ambiguous.

The results also suggest the possibility that the program may have become more effective over time. According to the estimated impacts, the program caused negligible effects for those randomly assigned in 1992, some increase in earnings for those randomly assigned in 1993, and the largest increase in earnings for those randomly assigned in 1994. Random assignment occurred over 2 years (mid-1992 through mid-1994). Each site conducted random assignment over a 15-month period, beginning in June 1992 in Dallas and Fort Worth, with other sites beginning random assignment in early 1993 (Richmond was the last site to begin random assignment, in March 1993). The program could have become more effective over time because it became more effective within sites over time or because sites that started later were more effective than sites that started earlier. It should be noted, however, that many site-specific factors could explain why the sites that started first could have had less effective programs than those that started later.

[10] For these regression-adjusted survey-based impact estimates, we define the "first followup year" as the first 12 months immediately after the month of random assignment.

[11] We control for whether a person received SSI and/or DI in the month of random assignment, the value of SSI and DI benefits at random assignment, and the number of months each person had received SSI or DI benefits prior to the random assignment month. We also control for site, primary impairment, and demographic characteristics such as age, race, marital status, education, and other factors.

[12] Note that we use data for the month of random assignment here. Table 8 contains information only on the months after random assignment.

[13] Project NetWork also had no statistically significant impacts on the duration of spells or on measures of recidivism. This finding is not surprising, given that impacts on rates of benefit receipt were generally negligible and given that so few participants who originally received benefits left the rolls over the followup period. About 4 percent of treatment group members left DI for at least 3 months and then returned to the DI rolls, and about 8 percent of treatment group members left SSI for at least 3 months and then returned to the SSI rolls. The percentages for control group members were virtually identical. Most participants were either always receiving benefits or never receiving benefits.

[14] The MMSE measures cognitive impairment by asking respondents to state the current date and geographic location, repeat some words, spell "world" backwards, recall some words spoken a few seconds earlier, identify the names of simple objects such as a pencil, fold a piece of paper, write a sentence, and copy a simple figure. Respondents receive points for each correct response, with a perfect score being 30. The average score of both treatment and control group members was 27; thus, Project NetWork had no detectable impact on this measure. In both groups, about 30 percent received perfect scores, and about 90 percent received at least 25 points. The MHI test is a subset of the 38-item Mental Health Inventory used in the Health Insurance Experiment to measure mental health status. The questions are: Have you been a very nervous person? Have you felt calm and peaceful, too downhearted and blue? Have you been a happy person? Have you felt so down in the dumps that nothing could cheer you up? Respondents could answer "all of the time," "most of the time," "a good bit of the time," "a little of the time," or "none of the time."

[15] The rest were referred to the demonstration from other programs.

[16] These include infectious and parasitic diseases, neoplasms, endocrine and metabolic disorders, complications of pregnancy, disorders of the skin and subcutaneous tissue, congenital abnormalities, prenatal diseases, and diseases of the blood and blood-forming organs, eye, ear, circulatory system, respiratory system, digestive system, and genitourinary system.

[17] Most of the benefit/cost analysis was conducted by David Long of Abt Associates.

[18] All benefit and cost results in this analysis are expressed in 1994 dollars, the year in which most program costs were incurred. Program effects and resource use that occurred before, during, and after that year are adjusted to reflect their value in 1994. This is done using a real annual discount rate of 5 percent, which takes account of forgone investment as well as inflation.

[19] The state perspective also takes account of state supplements of SSI payments, which occurred at all Project NetWork sites except Dallas and Fort Worth (Texas does not supplement federal payments).

[20] These various components of Project NetWork's direct costs were estimated in two steps. The first step is to calculate Project NetWork program participation measures for the treatment group. For the site operations and central administration components—which include case management, direct services provided by Project NetWork staff, other program operations, and site and central management—the participation measure is the treatment group's average length of participation in Project NetWork, measured in months. For purchased services, the measure is the proportion of the treatment group that received each of four types of services: assessment, medical treatment, employment services, and other services. These Project NetWork participation measures were then multiplied by the average cost of providing services of a given type to one person. For each of the four purchased services, the numerator of this average cost estimate is the total cost to Project NetWork of that type of service, as measured by vendor payments recorded by the program across all sites. The denominator is the number of Project NetWork participants who, according to program MIS data, received that particular service at least once. For site operations and central administration, total Project NetWork staff and nonpersonnel expenses are allocated between these two components and then divided by the total number of Project NetWork participation months recorded for the treatment group.

[21] The first step in doing this was to measure service receipt for the two groups using survey data. For the treatment group, services

that survey respondents said they did not receive from Project NetWork were counted as non-NetWork services. For the control group, all services reported by respondents were counted as non-NetWork services. The second step was estimating unit costs to apply to these participation estimates. These unit cost estimates are all based on state vocational rehabilitation agency expenditures and aggregate service use during 1994 in the states where the Project NetWork demonstration sites operated. Appendix E of Abt's Final Impact Report (Kornfeld, Wood, Orr, and Long 1999) provides a description of the state VR data that were used in making these estimates as well as an explanation of how the estimates were derived.

[22] This estimate differs from the figure one would calculate by adding together the annual earnings impacts reported previously because those estimates did not discount impacts in years after 1994, the base year for this analysis.

[23] Most of the fringe benefits (8 percent) were legally required (for example, the Federal Insurance Contributions Act (FICA), Unemployment Insurance, and workers' compensation). Nonmandatory benefits, including insurance, retirement, and other benefits that were received by only a subset of workers, averaged 7 percent across all workers.

[24] This estimate differs from the figure one would calculate by adding together the annual impacts reported previously because those estimates did not discount impacts in years after 1994, the base year for this analysis.

References

Abt Associates, Inc. 1998. *Evaluation of Project NetWork: Documentation of Final File of PNW Eligibles*. Bethesda, MD: Abt Associates, Inc.

Bell, Stephen H.; Jane Kulik; John Blomquist; Michelle Wood; Valerie Leiter; and Stephen Kennedy. 1994. *Project NetWork Evaluation: Research Design*. Bethesda, MD: Abt Associates, Inc.

Burstein, Nancy R.; Erik Beecroft; Jordan Hiller; and Michelle L. Wood. 1999. *Effects of the Project NetWork Demonstration Waiver Provisions*. Bethesda, MD: Abt Associates, Inc.

Burstein, Nancy R.; Cheryl A. Roberts; and Michelle L. Wood. 1999. *Recruiting SSA's Disability Beneficiaries for Return-to-Work: Results of the Project NetWork Evaluation*. Bethesda, MD: Abt Associates, Inc.

Decker, Paul and Craig Thornton. 1994. *The Long-Term Effects of the Transitional Employment Training Demonstration*. Princeton, NJ: Mathematica Policy Research.

————. 1995. "The Long-Term Effects of the Transitional Employment Services." *Social Security Bulletin*, Vol. 58, No. 4, pp. 71-81.

Fu Associates Ltd. 1998a. *Development of the Project NetWork SSI Benefit Analysis File*. Arlington, VA: Fu Associates, Ltd.

————. 1998b. *Development of the Project NetWork SSDI Benefit Analysis File*. Arlington, VA: Fu Associates, Ltd.

Kornfeld, Robert; Michelle L. Wood; Larry Orr; and David Long. 1999. *Impacts of the Project NetWork Demonstration: Final Report*. Bethesda, MD: Abt Associates, Inc.

Leiter, Valerie; Michelle L. Wood; and Stephen H. Bell. 1997. "Case Management at Work for SSA Disability Beneficiaries: Process Results of the Project NetWork Return-to-Work Demonstration." *Social Security Bulletin*, Vol. 60, No. 1, pp. 29-48.

McManus, Leo; Kalman Rupp; and Stephen H. Bell. 1993. "Project NetWork: A Return-to-Work Project for Social Security Disability Applicants and Beneficiaries." In *Partners for Independence: Models that Work, Conference Proceedings.* The Fifth North American Regional Conference of Rehabilitation International, October 27-29, Atlanta, GA, pp. 427-435.

Rupp, Kalman; Stephen H. Bell; and Leo. A. McManus. 1994. "Design of the Project NetWork Return-to-Work Experiment for Persons with Disabilities." *Social Security Bulletin,* Vol. 57, No. 2 (Summer), pp. 3-20.

Rupp, Kalman; Dianne Driessen; Robert Kornfeld; and Michelle Wood. 1999. "The Development of the Project NetWork Administrative Records Data Base for Policy Evaluation." *Social Security Bulletin*, Vol. 62, No. 2, pp. 30-42.

Rupp, Kalman; Michelle Wood; and Stephen H. Bell. 1996. "Targeting People with Severe Disabilities for Return-to-Work: The Project NetWork Demonstration Experience." *Journal of Vocational Rehabilitation*, Vol. 12, No. 1, pp. 7-59.

Wood, Michelle L.; Valerie Leiter; Debra Magri McInnis; and Stephen H. Bell. 1996. *Case Management at Work for SSA Disability Beneficiaries: Process and In-Program Results of the Project NetWork Return-to-Work Demonstration.* Bethesda, MD: Abt Associates, Inc.