

Long-Term Follow-Up of the Mental Health Treatment Study

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Introduction

Individuals with psychiatric conditions such as schizophrenia or depression represent a substantial portion of beneficiaries receiving Supplement Security Income (SSI) and Social Security Disability Insurance (SSDI). In 2015, 58.8 percent of adult SSI beneficiaries and 34.7 percent of SSDI beneficiaries had a psychiatric condition (SSA 2015a,b). Individuals with psychiatric conditions, and more specifically those with serious mental illness (SMI), tend to have poor employment outcomes and high rates of unemployment (Cook, 2006).

To date, considerable research has demonstrated that evidence-based supported employment, including individual placement supports (IPS), can benefit people with SMI and improve employment outcomes (Kinoshita et al. 2013). Although many studies have found positive impacts of IPS for adults with SMI in the short term, little is known about the long-term effects of IPS on employment outcomes. To our knowledge, only one prior study—by Cook et al. (2016)—has investigated the long-term impact of evidence-based supported employment services. In that study, data from 449 SSI and SSDI beneficiaries with a psychiatric condition who had participated in a multisite randomized trial of supported employment were matched to data from the SSA Disability Analysis File (DAF) for the 13-year period after the original study ended. Those who had received supported employment in the original study were more likely to be employed, had higher earnings per month, and were more likely to have disability cash benefits suspended or terminated due to work over the 13-year follow-up period. That study, however, was limited to a small and selected sample of beneficiaries from six study sites who were already receiving mental health services before the original study began; thus, the findings may not generalize to the full population of beneficiaries with serious mental illness.

In this study, we tracked the long-term employment and benefits outcomes from beneficiaries who participated in Social Security Administration's (SSA) Mental Health treatment Study (MHTS; Frey et al., 2011). The MHTS was an SSA demonstration launched in 2005 that provided intervention services for a two-year period to SSDI beneficiaries. A total of 2,238 beneficiaries who were between the ages of 18 and 55, had a primary impairment of schizophrenia or an affective disorder, and expressed interest in working were randomized to a treatment or control group. The treatment group received a package of services and benefits that included IPS; systematic medication management; coordination of medical and psychiatric care from a nurse care coordinator; suspension of medical continuing disability reviews; payment of the beneficiary's share of health insurance premiums, co-pays for behavioral health-related services, and premiums for any supplemental health insurance required to ensure coverage comparable to Medicare Parts A, B, and D; payment of out-of-pocket and other non-covered expenses; and access to other evidence-based behavioral health and related services. The control group did not receive any study-provided services or benefits; instead, they received a resource manual that listed services and resources for person with mental illness available both locally and nationally.

MHTS participants were relatively highly educated, with 61.6 percent having more than a high school education. Most were white (61.1 percent) and had affective disorders (70.7 percent), and 46 percent were never married. The average age at baseline was 47.4 years. The treatment group had a higher share of beneficiaries with schizophrenia than the control group (31.5 percent and 27.1 percent, respectively, $p=0.02$). Frey et al. (2011) found that, based on self-

reported data, beneficiaries in the treatment group were significantly more likely to be employed and had higher earnings than beneficiaries in the control group during the study period. The two groups did not differ, however, in their likelihood of having earnings above the substantial gainful activity level or in their disability income.

Methods

Participants in MHTS received intervention services as early as 2006 and as late as 2010. Our study considered the employment and benefits impacts from 2010 through 2014, or two to eight years following the start of services. With permission and support from SSA, we linked baseline demographic and clinical survey data from MHTS to the DAF and the Master Earnings File (MEF).¹ The DAF contains monthly measures—derived from SSDI and SSI program administration files—of the suspension or termination of cash disability benefits for work. The MEF contains annual data from the Internal Revenue Service on taxable earnings.

Using the MHTS participant information linked to the administrative records, we analyzed outcomes using both univariate and multivariate statistical methods. The main outcomes of interest were measured annually and include: (1) odds of any earnings; (2) average earnings among earners; and (3) odds of having SSI or SSDI benefits terminated due to work. To analyze longitudinal outcomes, we used mixed logistic and linear regression models, adjusting for the effects of time, repeated measures of an individual over time, and demographic and clinical characteristics that were significantly (either statistically or clinically) different between groups at baseline. The data were right-censored if participants exited the disability program due to death.

Results

During the follow-up period, participants in the treatment group were statistically significantly more likely to have any earnings (Table 1). We did not find a difference between the groups on the amount earned or on the likelihood of having disability benefits suspended or terminated for work.

Table 1. Summary outcomes of long-term follow-up study participants from January 2010 through December 2014 by study condition

Summary outcomes	Total N=2,221 % or Mean(SE)	Treatment n=1,114 % or Mean(SE)	Control n=1,107 % or Mean (SE)	Difference between treatment and control groups	p-value
Any earnings during follow-up	43.6%	48.0%	39.2%	8.8%	<0.0001
Average total earnings during follow-up, earners only, \$	25,449.46 (43,185.40)	27,172.03 (45,539.75)	23,362.01 (40,043.54)	3,810.02	0.168

¹ MHTS survey records had to be validated against SSA’s Enumeration Verification System prior to linking; we were able to verify 2,221 of the 2,238 MHTS participants for our study.

Ever suspended/ terminated for work (STW)	7.3%	8.3%	6.4%	1.9%	0.096
Number of months suspended/ terminated for work	1.9 (8.8)	2.2 (9.3)	1.7 (8.2)	0.5	0.227
Average estimated benefits forgone for work (BFW)	2,715.86 (12,389.15)	3,064.32 (13,436.50)	2,363.22 (11,225.50)	701.10	0.187
Average total cash payments from SSDI and SSI	56,194.89 (23,504.31)	56,069.21 (23,201.01)	56,321.00 (23,815.98)	-251.79	0.805

Source: MHTS data, DAF 2015, MEF 2014

Notes: Measures are not adjusted for inflation. STW and BFW are constructed measures in the DAF and include SSDI and SSI benefits.

After accounting for race, psychiatric diagnosis, and time trends, our regression results indicate that participants in the treatment group were more likely to report any earnings by a factor of four (Table 2). We did not find statistically significant differences across the groups in the average earnings (among earners) or likelihood of having disability benefits suspended or terminated for work in at least one month. Earnings increased over time for both groups but at a significantly greater rate for the treatment group.

Table 2. Longitudinal random logistic and linear regression models estimating the effect of MHTS on outcomes of interest from January 2010 through December 2014

	Any earnings		Earnings per year, for earners (\$)		Suspended/terminated for work (STW)	
	Odds ratio	p-value	Est	p-value	Odds ratio	p-value
Treatment group (vs control group)	4.133	<0.001	-281.57	0.702	0.978	0.741
Time (year)	0.929	0.031	172.65	<0.0001	1.120	0.657
Treatment group*Time	0.483	0.171	456.66	0.014	1.081	0.379
White (vs. other)	0.353	<0.001	488.76	0.469	0.754	0.146
Schizophrenia (vs Affective disorder)	0.628	0.098	-2,582.92	0.001	0.474	0.001

Source: MHTS data, DAF 2015, MEF 2014

Notes: STW is an annual measure of having at least one month of benefits suspended or terminated for work during the year.

Conclusion

Our findings suggest that the benefits package offered through MHTS, which included both IPS and medication management, had a long term positive impact on the odds of employment, but not on the amount of earnings per worker or the likelihood of having disability benefits suspended or terminated due to work. These findings are consistent with the original Mental Health Treatment Study findings, findings from several other short-term studies of supported employment (Kinoshita et al. 2010), and Cook et al.’s (2016) long-term study. Although IPS has been consistently shown to increase the percentage of people with serious mental illnesses who

work, these results suggest that further research is needed to identify successful strategies for helping working beneficiaries with psychiatric conditions to increase earnings and improve economic independence over the longer term. Although earnings may not be sufficient for termination of benefits, individuals with serious mental illness may still benefit from employment, and this participation may have a positive impact on mental health (Burns et al. 2008).

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