

# A Randomized Clinical Trial of Supported Employment for Inner-city Patients With Severe Mental Disorders

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**Background:** This experiment evaluated the effectiveness of 2 approaches to vocational services for persons with severe mental disorders: (1) individual placement and support (IPS), in which employment specialists within the mental health center help patients to obtain competitive jobs and provide ongoing support, and (2) enhanced vocational rehabilitation (EVR), in which stepwise vocational services are delivered by rehabilitation agencies.

**Methods:** One hundred fifty-two unemployed, inner-city patients with severe mental disorders who expressed interest in competitive employment were randomly assigned to IPS or EVR and followed up for 18 months. Following diagnostic assessment, participants were assessed with standardized measures of work, income, self-esteem, quality of life, symptoms, and hospitalization at baseline and at 6-, 12-, and 18-month follow-up evaluations. Employment

was tracked monthly and job satisfaction every 2 months.

**Results:** During the 18-month study, participants in the IPS program were more likely to become competitively employed (60.8% vs 9.2%) and to work at least 20 hours per week in a competitive job (45.9% vs 5.3%), whereas EVR participants had a higher rate of participation in sheltered employment (71.1% vs 10.8%). Total earnings, job satisfaction, and nonvocational outcomes were similarly improved for both groups.

**Conclusion:** The IPS model of supported employment is more effective than standard, stepwise EVR approaches for achieving competitive employment, even for inner-city patients with poor work histories and multiple problems.

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**C**OMPETITIVE employment is a primary goal for many people with severe mental disorders (SMD).<sup>1</sup> Moreover, they prefer competitive jobs (ie, regular jobs, supervised by the employer, for regular wages, and in integrated work settings) over prevocational training or sheltered jobs (ie, jobs supervised by mental health staff, at less than minimum wage, in segregated settings, and exclusively for persons with disabilities).<sup>1,2</sup>

The actual rates of competitive employment for people with SMD are quite meager, typically less than 15%.<sup>3-5</sup> One explanation for the low rates is that mental health professionals often discourage patients from seeking employment because they believe that the stress of competitive work produces adverse effects.<sup>6,7</sup> Another is that persons with SMD in the standard vocational service system tend to become stalled in sheltered work settings and do not transition to competitive jobs.<sup>8,9</sup> The

supported employment movement represents a promising departure from standard vocational approaches by emphasizing rapid, individualized placement in competitive jobs in integrated work settings with time-unlimited, follow-along supports.<sup>10-12</sup> Promising results have emerged from initial research on supported employment for people with SMD.<sup>13-19</sup> Current research also indicates that supported employment neither causes undue stress nor precipitates exacerbations of illness.<sup>9,20,21</sup>

Individual placement and support (IPS) provides a manualized approach to supported employment for patients with SMD, in which vocational services are integrated within mental health teams.<sup>22,23</sup> In a previous clinical trial in New Hampshire, we compared employment services delivered via the IPS model with standard, stepwise vocational services delivered by a rehabilitation agency.<sup>16</sup> During an 18-month period, competitive employment outcomes favored the IPS partici-

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## SUBJECTS AND METHODS

### SUBJECTS

All study participants met enrollment criteria: SMD, unemployment, willingness to give informed consent, and lack of memory impairment or medical illness that would preclude working or participating in research interviews. Consistent with standards used in most states,<sup>24</sup> adult clients of the District of Columbia Commission on Mental Health Services are considered to have SMD if they have major mental illness (defined as schizophrenia, schizoaffective disorder, bipolar disorder, recurrent major depression, or borderline personality disorder) and at least 2 years of major role dysfunction. Participants were recruited at Community Connections, an agency in southeast Washington, DC, that serves patients with SMD who need intensive case management, usually because their psychiatric disorders are complicated by homelessness, comorbid substance use disorder, or human immunodeficiency virus infection.<sup>25</sup>

During an 18-month period from January 1994 to July 1995, all clients at Community Connections were encouraged to attend informational groups and were screened for eligibility by the project director. Of the 309 clients at Community Connections, 200 (64.7%) attended at least 1 informational group, and 152 (49.2%) joined the project. Interviews with 43 clients who attended the group but declined to join the project indicated that the majority either decided that they were not interested in competitive employment or planned to move out of the area.<sup>26</sup> Community Connections clients who did not join the project ( $n = 159$ ) were similar to study participants ( $n = 152$ ) in terms of sex, minority status, and primary diagnoses, but they were more likely to be elderly (21.7% vs 1.3% older than 60 years,

$\chi^2 = 34.4$ ,  $P < .01$ ). Random assignment was stratified according to work history ( $>1$  year of employment in a previous job); 76 participants were assigned by computer-generated random numbers to IPS and 76 to EVR.

### INTERVENTIONS

Individual placement and support was developed to provide supported employment services for people with SMD in community mental health centers.<sup>23</sup> The IPS program integrates mental health and vocational services by having an employment specialist join multidisciplinary case management teams. Rather than providing preemployment assessment and training in sheltered workshops, IPS employment specialists assist clients in searching for jobs rapidly and, after securing employment, provide individualized, follow-along supports (eg, counseling, transportation, or intervening with an employer) as needed without time limits. For this study, 3 employment specialists were hired to implement IPS at Community Connections. Each had a caseload of 25 clients and carried out all phases of the vocational process. The IPS program was implemented according to a manual<sup>22</sup> and monitored by the research team. Fidelity ratings, made regularly throughout the project by the research team, indicated that the IPS program consistently scored within the "high fidelity" range on the IPS Fidelity Scale.<sup>27</sup>

The comparison condition, EVR, consisted of vocational rehabilitation services provided by several well-established agencies recommended by the District of Columbia Rehabilitation Services Administration. The EVR condition was considered "enhanced" because an extra vocational counselor was placed in the Rehabilitation Services Administration office to ensure that participants assigned to this condition were referred to appropriate

pants by a ratio of approximately 2:1. For example, the overall rates of obtaining competitive jobs were 78.1% for IPS participants and 40.3% for those in the rehabilitation agency. This study could be criticized because the participants generally had good vocational histories, few came from minority backgrounds, and all members of the control group were assigned to a single rehabilitation vendor rather than to an array of vocational programs.

The purpose of the present study was to replicate the New Hampshire study in Washington, DC, with a more diverse and disadvantaged group of patients with SMD and a typical variety of vocational agencies. In the current experiment, one group of participants received IPS, while the other group received enhanced vocational rehabilitation (EVR) services from several local rehabilitation agencies, all of which used stepwise approaches in which prevocational experiences, such as sheltered workshop trials, preceded competitive employment. Thus, the models offered a clear contrast between the rapid job search method of IPS and the stepwise approach of EVR.

This study tests 3 hypotheses: (1) that for persons with SMD, IPS results in a higher rate of competitive employment, more total hours of competitive work, and more wages than EVR; (2) that the stepwise approach (EVR) leads to high rates of sheltered employment, but, con-

trary to program goals, does not lead to competitive employment; and (3) that the rapid job search approach of IPS does not result in more hospitalizations or other negative outcomes than the more gradual EVR approach.

## RESULTS

### SUBJECT CHARACTERISTICS

The demographics, Structured Clinical Interview for *DSM-III-R* diagnoses, recent histories of homelessness and hospitalization, and employment histories of the participants are given in **Table 1**. The 2 groups were comparable except that the IPS participants were slightly younger and had a higher rate of current drug use disorder (primarily cocaine). Other differences were not significant.

### SERVICE OUTCOMES

All IPS and EVR participants reported receiving some amount of vocational services. Participants in the EVR program were referred to 10 different rehabilitation programs, but three fourths (76.3%) received services from 1 of 3 main programs. Several (15.8%) attended more than 1 program.

rehabilitation agencies expeditiously. The vocational counselor monitored participants monthly, and if a client was dissatisfied with the program to which he or she was assigned or dropped out of vocational services, the counselor attempted to link that participant with another agency. All of the EVR agencies endorsed competitive employment as their goal but used stepwise approaches that involved pre-vocational experiences, primarily paid work adjustment training in a sheltered workshop.

To assess the amount of vocational services and to document that the 2 vocational interventions differed on critical process dimensions, researchers monitored program participants and their service use through bi-monthly interviews.

## ASSESSMENTS

Prior to enrolling in the trial, all participants received a diagnostic interview using the Structured Clinical Interview for *DSM-III-R*<sup>28</sup> to confirm eligibility. Major assessments were conducted at baseline and at 6-, 12-, and 18-month follow-up points. At each major assessment, research interviewers completed the Employment and Income Review,<sup>29</sup> the Global Assessment Scale,<sup>30</sup> the expanded Brief Psychiatric Rating Scale,<sup>31</sup> the Rosenberg Self-Esteem Scale,<sup>32</sup> and sections of the Quality of Life Interview.<sup>33</sup>

The primary outcome, competitive employment, was defined as work in the competitive job market at prevailing wages with supervision provided by personnel employed by the business and in integrated work settings.<sup>10,11</sup> Employment was assessed weekly by employment specialists in both programs. Every 2 months research interviewers asked participants about employment, vocational services received, and satisfaction that the program was helping them to achieve their goals. Employed

participants were also assessed every 2 months with the Indiana Job Satisfaction Scale.<sup>34</sup> Both interrater and test-retest reliabilities were maintained at high levels ( $\kappa$  and intraclass correlations consistently above 0.7).

## FOLLOW-UP RATES AND ATTRITION

Complete vocational data were obtained on 150 participants (98.7%). For research interviews, follow-up rates at 6-, 12-, and 18-month assessments were 98.7%, 96.7%, and 94.7%, respectively. There were too few noncompleters to compare them statistically with completers.

## DATA ANALYSES

Standard statistics were used to test group differences throughout the analyses. Univariate tests of significance were conducted using  $\chi^2$  tests for discrete data and *t* tests for continuous data to examine group equivalence at baseline and group differences on cumulative measures of employment. All statistical tests were 2 tailed with  $\alpha$  set at .05. For distributions with high skewness or underused categories, the data were log-transformed or recoded into fewer categories. The mixed-effects regression approach (SAS PROC MIXED) for longitudinal data was used to test group differences on nonvocational outcomes. For these analyses, the covariance structure was specified as unstructured, and time was treated as a class variable.

The statistical analysis of employment outcomes was hampered because the group means and associated variances differed so greatly that the assumptions of conventional parametric tests, such as the *t* test, were not met. Non-parametric analogs, such as the Mann-Whitney test, were conducted to validate the parametric tests reported here and in every case produced equivalent results.

There were no group differences in the proportion of participants who reported receiving vocational services during bimonthly intervals. For IPS participants, the proportion receiving vocational services declined gradually from 95% at 2 months to 61% at 18 months, and for EVR participants, the proportion changed from 84% at 2 months to 57% at 18 months. However, the IPS participants did report receiving more total vocational services during the study (IPS log mean hours = 1.37, SEM = .06; EVR log mean hours = 1.12, SEM = .05;  $t_{148} = 3.22$ ,  $P = .002$ ). Consistent with the respective models, IPS participants received more help with job searches (IPS log mean hours = 0.86, SEM = 0.94; EVR log mean hours = -0.77, SEM = 1.27;  $t_{137.8} = 8.97$ ,  $P < .001$ ), while EVR participants received more job planning services (IPS log mean hours = 0.25, SEM = 1.03; EVR log mean hours = 0.60, SEM = 0.72;  $t_{129.8} = -2.43$ ,  $P = .02$ ). The 2 groups received similar amounts of job support. In addition, the same proportion of each group (98.7%) received mental health case management services throughout the study.

## VOCATIONAL OUTCOMES

Competitive employment outcomes consistently favored IPS (**Table 2**). Participants in the IPS program

were more likely than EVR participants to obtain a competitive job and to be working competitively during any month of the study, and they also had superior outcomes in other dimensions of competitive employment, including various measures of job tenure and earnings. The IPS participants rapidly obtained a rate of competitive employment of 22% by the second month of participation and maintained a level between 17% and 34% throughout the 18-month follow-up, whereas 5% or less of EVR participants were competitively employed throughout the study (**Figure**). Consistent with their educational and work histories, the 45 competitively employed IPS clients occupied a range of mostly entry-level jobs, such as clerical, sales, and service positions. On average, they worked 529.5 hours and earned \$3084.11, at an average hourly wage of \$5.82, during the 18-month study. Their average job tenure was 16.5 weeks.

Consistent with the stepwise approach, EVR participants were more likely than IPS participants to work in sheltered jobs (Table 2). The 54 EVR participants who worked in sheltered jobs earned on average \$1878.57. Most of this work was piece rate, and the average earning rate was typically less than \$1 per hour. There were no differences in vocational outcomes among the EVR

**Table 1. Participant Characteristics\***

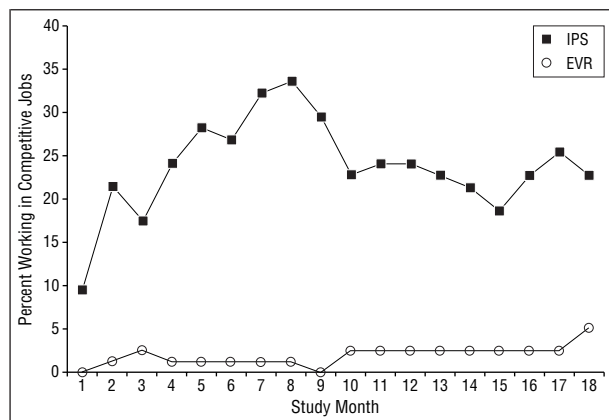
Characteristic	IPS Participants (n = 76)	EVR Participants (n = 76)
Female	42 (55.3)	51 (67.1)
African American	65 (85.5)	61 (80.3)
Age, mean (SEM), y	38.2 (0.7)†	40.6 (0.9)
High school diploma or higher	51 (67.1)	48 (63.2)
Never married	52 (68.4)	48 (63.2)
Psychiatric diagnosis‡		
Schizophrenia spectrum	54 (71.1)	48 (63.2)
Bipolar disorder	13 (17.1)	8 (10.5)
Depressive disorders	8 (10.5)	17 (22.4)
Other Axis I disorder	1 (1.3)	3 (3.9)
Current alcohol use disorder	10 (13.2)	4 (5.3)
Current drug use disorder	17 (22.4)§	5 (6.6)
Days homeless in past year, mean (SEM)	14.2 (4.4)	31.2 (8.9)
Days in hospital in past year, mean (SEM)	30.3 (6.5)	17.4 (3.9)
Months paid work in past 5 y, mean (SEM)	7.3 (1.1)	8.0 (1.3)

\*Data are presented as number (percentage) unless otherwise indicated. IPS indicates individual placement and support; EVR, enhanced vocational rehabilitation.

† $t_{150} = 2.16, P < .05$ .

‡Diagnoses are from the Structured Clinical Interview for DSM-III-R.<sup>28</sup>

§ $\chi^2_{1} = 7.65, P < .01$ .



Longitudinal plot of the percentage of study participants in the individual placement and support (IPS) (n = 74) and enhanced vocational rehabilitation (EVR) (n = 76) groups who worked in competitive jobs in each study month.

participants who received services from the 3 major vocational rehabilitation agencies.

In addition to competitive and sheltered jobs, a few individuals in both the IPS and EVR programs worked in federal set-aside jobs through the National Industries for the Severely Handicapped program. These jobs have some characteristics of competitive employment (work for regular wages in existing federal agencies) and some characteristics of sheltered jobs (work in enclaves in positions that are only available to persons with disabilities). Total wages (from competitive, sheltered, and National Industries for the Severely Handicapped jobs) were equivalent for the 2 conditions (Table 2).

Other outcomes directly related to work, such as satisfaction with income, job, and vocational services, were generally high for both groups, but sometimes favored IPS (Table 3). Thus, participants in both groups reported greater financial support adequacy, satisfaction

**Table 2. Employment Outcomes During the 18-Month Study Period\***

Employment Outcome	IPS Participants (n = 74)	EVR Participants (n = 76)
Competitive employment		
Any competitive job, No. (%)	45 (60.8)†	7 (9.2)
Hours worked	322.0 (66.2)‡	27.6 (14.3)
Weeks worked	15.1 (2.5)§	1.2 (0.6)
Wages earned, \$	1875.47 (392.43)	153.99 (83.91)
Days to first job	125.6 (16.6)¶	293.4 (73.0)
Sheltered employment		
Any sheltered job, No. (%)	8 (10.8)#	54 (71.1)
Wages earned, \$	43.24 (30.02)**	1334.77 (254.63)
NISH employment		
Any NISH job, No. (%)	2 (2.7)	7 (9.2)
Wages earned, \$	81.07 (69.87)	516.48 (212.86)
Total earnings, \$	1999.78 (393.08)	2005.24 (338.54)

\*Data are presented as mean (SEM) unless otherwise indicated. IPS indicates individual placement and support; EVR, enhanced vocational rehabilitation; and NISH, National Industries for the Severely Handicapped.

† $\chi^2_{1} = 44.1, P < .001$ .

‡ $\chi^2_{79.8} = 4.35, P < .001$ .

§ $t_{82.8} = 5.41, P < .001$ .

¶ $t_{79.7} = 4.29, P < .001$ .

# $t_{50} = -3.33, P < .01$  (only for clients who worked [n = 52]).

\*\* $\chi^2_{1} = 56.1, P < .001$ .

\*\* $t_{77.1} = -5.04, P < .001$ .

with finances, and satisfaction with vocational services (time effects). Similarly, Indiana Job Satisfaction ratings (averaged over all jobs and all rating periods) were high for both groups and revealed no group difference (IPS mean = 3.40, SEM = 0.45; EVR mean = 3.25, SEM = 0.50;  $t_{99} = 1.57, P = .12$ ). On the other hand, IPS participants were more satisfied with their vocational services over time than were EVR participants (interaction effect), were more satisfied that their vocational program was helping them to achieve their goals (group main effect), and reported higher Quality of Life Interview job satisfaction ratings at 1 of the 3 follow-ups.

Neither psychiatric diagnosis nor total psychiatric symptoms was associated with the amount of competitive work, the amount of sheltered work, or the probability of working. Work history, defined as the number of months of paid employment in the community in the past 5 years, did predict total wages earned in competitive work ( $r = 0.27, n = 150, P = .001$ ), total wages earned in sheltered work ( $r = 0.20, n = 150, P = .02$ ), and total wages earned in the study period ( $r = 0.34, n = 150, P < .001$ ).

### NONVOCATIONAL OUTCOMES

There were essentially no group or group  $\times$  time interaction differences for nonvocational outcomes. However, both groups improved over time on global functioning, general quality of life, and self-esteem (Table 3), with post hoc comparisons consistently revealing that improvements occurred during the first 6 months of the study and then remained stable. Consistent with baseline differences, IPS participants had more psychiatric hospital days during the study (Table 3), and this group

**Table 3. Mean (SE) Differences Between Groups (IPS vs EVR) in Secondary Outcomes\***

Variable	Assessment Point			
	Baseline	6 mo	12 mo	18 mo
<b>Vocational outcomes</b>				
Financial support adequacy†‡				
IPS	1.4 (0.03)	1.2 (0.03)	1.3 (0.03)	1.3 (0.03)
EVR	1.4 (0.03)	1.3 (0.03)	1.3 (0.03)	1.3 (0.04)
Satisfaction with finances†				
IPS	3.4 (0.17)	4.1 (0.16)	4.0 (0.18)	4.2 (0.19)
EVR	3.6 (0.17)	3.9 (0.16)	3.9 (0.18)	3.9 (0.19)
QOLI satisfaction with job§				
IPS	...	5.4 (0.22)	5.3 (0.21)	5.1 (0.18)
EVR	...	4.8 (0.19)	4.9 (0.14)	5.1 (0.20)
Satisfaction with vocational services†				
IPS	3.0 (0.15)	5.0 (0.16)	5.0 (0.18)	4.7 (0.19)
EVR	3.3 (0.18)	4.7 (0.17)	4.4 (0.19)	4.7 (0.18)
Vocational services helped meet goals¶ #				
IPS	...	4.88 (0.17)	4.92 (0.18)	4.83 (0.20)
EVR	...	4.53 (0.16)	4.36 (0.19)	4.51 (0.19)
<b>Nonvocational outcomes</b>				
Global Assessment Scale†				
IPS	42.7 (1.08)	44.2 (1.17)	46.2 (1.32)	45.8 (1.43)
EVR	42.2 (1.11)	44.1 (1.15)	45.1 (1.16)	46.0 (1.78)
Rosenberg Self-Esteem Scale†				
IPS	20.0 (0.61)	18.4 (0.57)	18.9 (0.67)	18.5 (0.70)
EVR	19.5 (0.65)	18.2 (0.65)	19.0 (0.65)	18.1 (0.68)
General quality of life†				
IPS	4.6 (0.15)	5.0 (0.14)	4.9 (0.14)	5.0 (0.17)
EVR	4.6 (0.17)	4.9 (0.15)	4.9 (0.14)	4.8 (0.18)
Satisfaction with housing				
IPS	4.7 (0.16)	4.6 (0.18)	4.6 (0.17)	4.7 (0.17)
EVR	4.8 (0.15)	4.9 (0.15)	5.0 (0.13)	4.7 (0.16)
Satisfaction with town				
IPS	4.5 (0.12)	4.5 (0.16)	4.4 (0.16)	4.5 (0.17)
EVR	4.5 (0.16)	4.4 (0.16)	4.3 (0.13)	4.3 (0.18)
Satisfaction with leisure				
IPS	4.2 (0.15)	4.6 (0.14)	4.6 (0.15)	4.5 (0.17)
EVR	4.4 (0.15)	4.5 (0.16)	4.5 (0.16)	4.5 (0.16)
Satisfaction with services				
IPS	4.4 (0.12)	5.1 (0.13)	5.1 (0.13)	5.1 (0.14)
EVR	4.7 (0.12)	5.2 (0.10)	4.9 (0.14)	5.1 (0.12)
Hospital days¶				
IPS	15.2 (3.24)	10.0 (2.39)	9.8 (2.43)	11.5 (2.99)
EVR	8.7 (1.96)	7.7 (1.79)	4.7 (1.32)	5.7 (1.33)
BPRS total score†				
IPS	37.4 (1.01)	38.3 (1.33)	38.5 (1.16)	39.2 (1.19)
EVR	37.6 (1.11)	39.6 (1.31)	39.0 (1.32)	41.1 (1.54)
BPRS Affect				
IPS	1.9 (0.09)	1.9 (0.10)	1.9 (0.10)	1.9 (0.11)
EVR	1.9 (0.09)	2.1 (0.10)	1.9 (0.10)	2.0 (0.11)
BPRS Anergia				
IPS	1.7 (0.09)	1.6 (0.09)	1.7 (0.09)	1.9 (0.11)
EVR	1.5 (0.08)	1.7 (0.10)	1.6 (0.09)	2.0 (0.11)
BPRS Thought Disorder				
IPS	1.7 (0.12)	1.7 (0.11)	1.6 (0.11)	1.7 (0.09)
EVR	1.7 (0.11)	1.7 (0.10)	1.8 (0.11)	1.8 (0.13)
BPRS Activation				
IPS	1.2 (0.05)	1.4 (0.10)	1.4 (0.10)	1.4 (0.09)
EVR	1.3 (0.05)	1.2 (0.06)	1.4 (0.09)	1.4 (0.08)
BPRS Disorganization				
IPS	1.4 (0.06)	1.4 (0.07)	1.3 (0.07)	1.3 (0.06)
EVR	1.5 (0.08)	1.6 (0.10)	1.6 (0.10)	1.6 (0.11)

\*IPS indicates individual placement and support; EVR, enhanced vocational rehabilitation; QOLI, Quality of Life Interview; and BPRS, Brief Psychiatric Rating Scale.

†Main effect for time is significant at  $P < .05$  in mixed-effects regression.

‡Lower scores indicate greater financial support adequacy (range, 1-2).

§Only asked of those employed. Significant group difference at 6 mo ( $t_{52} = 2.2, P < .05$ ).

||Group  $\times$  Time interaction is significant at  $P < .05$  in mixed-effects regression.

¶Main effect for group is significant at  $P < .05$  in mixed-effects regression.

#Variable was measured bimonthly and analyzed as a 9-point time series.

difference disappeared when the baseline value was entered as a fixed covariate rather than as part of the response vector. Both groups decreased hospital use after starting their vocational programs, but the reductions were not significant. Brief Psychiatric Rating Scale total scores increased significantly, but these increases were clearly in the subclinical range, with no average symptom scores above 2.0 and no increases on subscales.

#### COMMENT

The major finding of this study was that IPS was more successful than EVR in helping multiply impaired, inner-city patients with SMD to obtain competitive employment. Participants in the IPS program obtained competitive jobs faster and maintained their advantage throughout the 18 months of the study. Further group differences in time or amount of competitive work were consistent with the differential rates of employment. This main outcome accords with the positive results of previous studies of IPS and similar approaches to supported employment<sup>20</sup> and the negative outcomes in other studies of stepwise approaches.<sup>35</sup>

Our study expands earlier results by showing that IPS is superior to EVR for patients who are usually considered poor candidates for vocational services owing to complicating conditions such as poor employment histories, dual diagnosis, and homelessness. This study also addressed another limitation of our earlier New Hampshire study<sup>16</sup> by including several vendors, rather than a single vendor, in the EVR condition. Because competitive employment was negligible for all of the vendors, the failure of the stepwise EVR approach could not be attributed to poor performance by a single vendor. Inefficiencies within the Rehabilitation Services Administration were eliminated as an explanation for the failure of EVR because an extra vocational counselor insured that project participants were rapidly assessed and linked with vocational programs.

Although we believe that the differences in competitive employment in this study are most parsimoniously explained by the direct vs stepwise difference between the IPS and EVR approaches, other possibilities should be considered. One rival explanation concerns the organizational linkage between mental health and vocational services. In the standard service system, a patient receives mental health care from one agency and vocational services from a separate agency, which has the theoretical advantages of allowing the vocational agency to specialize, avoid the stigma of mental illness treatment, and develop a culture of high expectations.<sup>36</sup> In practice, however, separate and parallel agencies have difficulty cooperating to individualize services.<sup>37,38</sup> The IPS program overcomes the communication difficulties of parallel services by having employment specialists join mental health teams, which could account for experimental differences.

The IPS participants reported more total vocational services, but these reports did not include time working in sheltered workshops, which is the core of the EVR approach. In fact, EVR programs engaged most of their patients in extensive sheltered work. Failure seems to have occurred at the step of transitioning from shel-

tered work to competitive jobs. Contrary to the models and stated goals of the EVR programs, their participants only rarely moved on to competitive work. Although rehabilitation agencies usually do not specify the length of time to transition from sheltered to competitive jobs, clients clearly expect the transition to occur before 18 months. In practice, however, participants in stepwise programs became stalled in sheltered jobs, because of either their own inertia or conservative forces within sheltered work programs.<sup>9</sup>

Another finding of the current study was the lack of evidence that entering vocational services in general or the more intensive, high-expectations approach of IPS in particular produced negative outcomes in nonvocational areas. On the contrary, these data suggest that participating in a vocational program is associated with improvements not only in vocational related outcomes such as income but also in nonvocational outcomes such as quality of life and self-esteem. Because participants in the 2 programs engaged in similar rates but different types of work, our data suggest that type of work is less important than participating in a vocational program for the effect on nonvocational outcomes.

Our hypothesis concerning vocational earnings was not confirmed. Although IPS was clearly superior to EVR in helping patients to attain competitive employment, EVR participants earned as much money as IPS participants (primarily through sheltered workshops). The EVR participants also expressed similar satisfaction with their jobs as IPS participants, and the 2 groups had similar nonvocational outcomes. Given these findings, are there nevertheless reasons to favor competitive employment over sheltered work? The IPS participants were more satisfied than EVR participants that the program was helping them to achieve their goals, consistent with evidence from other studies that people with psychiatric disorders prefer competitive employment<sup>1,2</sup> and do not move on from sheltered work to competitive jobs.<sup>9</sup> Ultimately, however, the answer to this question may involve values: Do we believe it is better to integrate people with mental illness into mainstream society, or do we want to maintain separate work settings and keep them segregated from society?

In addition to the usual limits to generalization regarding particular patients and the enthusiasm of new programs, one caveat seems particularly warranted for this study. Although the patients were high risk, in the sense that most had histories of homelessness and dual diagnosis and continued to live in high-crime neighborhoods, they had the advantage of receiving intensive case management in a high-quality program that integrated mental health, substance abuse, and housing services. Inner-city patients in a more fragmented and less well-integrated service system may not benefit from IPS to the same extent or at all. Another limitation was the inability to maintain the blindedness of interviewers, though this factor could not account for the major difference in competitive employment.

In conclusion, IPS significantly increased the rate of competitive employment, even for this highly vulnerable population, while standard stepwise EVR approaches involved similar proportions of patients in sheltered

work with few transitions to competitive employment. The current study also adds to mounting evidence that vocational services do not destabilize patients with SMD and may instead enhance their outcomes in other, non-vocational areas.

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## REFERENCES

1. Rogers ES, Walsh D, Masotta L, Danley K. *Massachusetts Survey of Client Preferences for Community Support Services (Final Report)*. Boston, Mass: Center for Psychiatric Rehabilitation; 1991.
2. Estroff S. *Making It Crazy: An Ethnography of Psychiatric Clients in an American Community*. Berkeley, Calif: University of California Press; 1981.
3. Marshak LE, Bostick D, Turton LJ. Closure outcomes for clients with psychiatric disabilities served by the vocational rehabilitation system. *Rehab Counsel Bull*. 1990;33:247-250.
4. Anthony WA, Blanch A. Supported employment for persons who are psychiatrically disabled: a historical and conceptual perspective. *Psychosoc Rehab J*. 1987; 11:5-23.
5. Jacobs HE, Kardashian S, Kreinbring S, Ponder R, Simpson AR. A skills-oriented model for facilitating employment among psychiatrically disabled persons. *Rehab Counsel Bull*. 1984;28:87-96.
6. Scheid TL, Anderson C. Living with chronic mental illness: understanding the role of work. *Commun Ment Health J*. 1995;31:163-176.
7. Black B. A kind word for sheltered work. *Psychosoc Rehab J*. 1992;15:87-89.
8. Bond G, McDonel E. Vocational rehabilitation outcomes for persons with psychiatric disabilities: an update. *J Voc Rehab*. 1991;1:9-20.
9. Bond GR. Principles of the individual placement and support model: empirical support. *Psychiatr Rehab J*. 1998;22:11-23.
10. Rehabilitation Act Amendments of 1986, the state-supported employment services program. 52 *Federal Register* 30546-30552 (1987) (codified at 34 CFR §363).
11. 57 *Federal Register* (1992).
12. Wehman P, Moon MS. *Vocational Rehabilitation and Supported Employment*. Baltimore, Md: Paul Brookes; 1988.
13. Bailey EL, Ricketts SK, Becker DR, Xie H, Drake RE. Do long-term day treatment clients benefit from supported employment? *Psychiatr Rehab J*. 1998;22:24-29.
14. Bond G, Dietzen L, McGrew J, Miller L. Accelerating entry into supported employment for persons with severe psychiatric disabilities. *Rehab Psychol*. 1995; 40:91-111.
15. Drake RE, Becker DR, Biesanz JC, Torrey WC, McHugo GJ, Wyzik PF. Rehabilitative day treatment vs supported employment, I: vocational outcomes. *Commun Ment Health J*. 1994;30:519-532.
16. Drake RE, McHugo GJ, Becker DR, Anthony WA, Clark RE. The New Hampshire study of supported employment for people with severe mental illness. *J Consult Clin Psychol*. 1996;64:391-399.
17. Gervay R, Bedell JR. Supported employment in vocational rehabilitation. In: Bedell JR, ed. *Psychological Assessment and Treatment of Persons With Severe Mental Disorders*. Washington, DC: Taylor & Francis; 1994:151-175.
18. McFarlane WR, Stastny P, Deakins S, Dushay R, Lukens E, Link B. Family psychoeducation, assertive community treatment and vocational rehabilitation for persons with schizophrenia: employment outcomes in controlled and comparative studies. In: *Proceedings of the NASMHPD Research Institute Fourth Annual Conference on State Mental Health Agency Services Research and Program Evaluation*. Alexandria, Va: National Association of Mental Health Program Directors Research Institute; 1994:113-123.
19. Meisel J, McGowen M, Patotzka D, Madison K, Chandler D. *Evaluation of AB 3777 Client and Cost Outcomes, July 1990 Through March 1992*. Sacramento, Calif: California Dept of Mental Health; 1993.
20. Bond GR, Drake RE, Mueser KT, Becker DR. An update on supported employment for people with severe mental illness. *Psychiatr Serv*. 1997;48:335-346.
21. Bedell JR, Draving D, Parrish A, Gervay R, Guastadisegni P. A description and comparison of experiences of people with mental disorders in supported employment and paid vocational training. *Psychiatr Rehab J*. 1998;21:279-283.
22. Becker DR, Drake RE. *A Working Life: The Individual Placement and Support (IPS) Program*. Concord, NH: New Hampshire-Dartmouth Psychiatric Research Center; 1993.
23. Becker DR, Drake RE. Individual placement and support: a community mental health center approach to vocational rehabilitation. *Commun Ment Health J*. 1994; 45:487-489.
24. Schinnar A, Rothbard A, Kanter R, Jung Y. An empirical literature review of definitions of severe and persistent mental illness. *Am J Psychiatry*. 1990;147:1602-1608.
25. Harris M, Bachrach LL, eds. *Clinical Case Management*. San Francisco, Calif: Jossey-Bass Publishers Inc; 1988.
26. Bebout RR, Becker DR, Drake RE. A research induction group for clients entering a mental health research project: a replication study. *Commun Ment Health J*. 1998;34:289-295.
27. Bond GR, Becker DR, Drake RE, Vogler KM. A fidelity scale for the individual placement and support model of supported employment. *Rehab Counsel Bull*. 1997; 40:265-284.
28. Spitzer R, Williams J, Gibbon M, First M. *Structured Clinical Interview for DSM-III-R Patient Version (SCID-P)*. New York, NY: Biometrics Research Department, New York State Psychiatric Institute; 1988.
29. Center for Psychiatric Rehabilitation. *Improved Rehabilitation of Psychiatrically Disabled Individuals*. Boston, Mass: Center for Psychiatric Rehabilitation; 1989. Final Report NIDRR G0087C 0223-88.
30. Endicott J, Spitzer RL, Fleiss JL, Cohen J. The Global Assessment Scale: a procedure for measuring overall severity of psychiatric disturbance. *Arch Gen Psychiatry*. 1976;33:766-771.
31. Lukoff K, Liberman R, Nuechterlein K. Symptom monitoring in the rehabilitation of schizophrenic patients. *Schizophr Bull*. 1986;12:578-602.
32. Rosenberg M. *Society and the Adolescent Self-image*. Princeton, NJ: Princeton University Press; 1965.
33. Lehman A. The well-being of chronic mental patients. *Arch Gen Psychiatry*. 1983; 40:369-373.
34. Cook J, Bond G, Hoffschmidt S, Jonas E, Razzano L, Weakland R. *Assessing Vocational Performance Among Persons With Severe Mental Illness: A Handbook of Clinical and Research Assessments*. Chicago, Ill: Thresholds National Research and Training Center; 1994.
35. Noble JH, Honberg RS, Hall LL, Flynn LM. *A Legacy of Failure: The Federal-State Vocational Rehabilitation System to Serve People With Severe Mental Illness*. Arlington, Va: National Alliance for the Mentally Ill; 1997.
36. Cook JA. Outcome assessment in psychiatric rehabilitation services for persons with severe and persistent mental illness. Paper presented at: Annual Meeting of the American Public Health Association; November 8, 1992; Washington, DC.
37. Harding C, Strauss J, Hafez H, Liberman P. Work and mental illness, I: toward an integration of the rehabilitation process. *J Nerv Ment Dis*. 1987;175:317-326.
38. Katz LJ, Geckle M, Goldstein G, Eichenmuller A. A survey of perceptions and practice: interagency collaboration and rehabilitation of persons with long-term mental illness. *Rehab Counsel Bull*. 1990;33:290-300.