Converting Day Treatment Centers to Supported Employment Programs in Rhode Island

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Objective: The purpose of the study was to compare vocational and non-vocational outcomes of clients of two community mental health centers that underwent conversion from day treatment programs to supported employment programs with outcomes of clients of a center that delayed conversion until after the study was completed. Methods: As part of a statewide effort in Rhode Island to convert day treatment programs to supported employment programs, the authors assessed 127 day treatment clients with severe mental illness in three community mental health centers. Two of the centers converted to supported employment, and one continued its rehabilitative day program. Participants were assessed prospectively for 30 to 36 months, with special attention to vocational and social outcomes. Results: Former day treatment clients in the converted centers attained higher rates of competitive employment than those in the comparison group (44.2 percent and 56.7 percent versus 19.5 percent). Other employment outcomes also improved, and hospitalization rates and overall social functioning were unchanged. Conclusions: This study supports findings of previous studies suggesting that replacing rehabilitative day treatment programs with supported employment programs yields improvements in employment outcomes without adverse effects. (Psychiatric Services 52:351–357, 2001)

Historically, community mental health center services for clients with severe mental illness have been organized around the central structure of day treatment programs (1). The term “day treatment” has been used interchangeably with “partial hospitalization,” which has been defined as “an ambulatory treatment program that includes the major diagnostic, medical, psychiatric, and prevocational treatment modalities designed for patients with serious mental disorders who require coordinated, intensive, comprehensive, and multidisciplinary treatment not provided in an outpatient clinic setting” (2).

Because partial hospitalization was mandated as an essential service in the Community Mental Health Center Act of 1963 (3), the number of such programs grew to exceed 1,000 nationwide by the 1980s (2). Originally developed as a cost-effective alternative to inpatient hospitalization (4–6), day treatment programs rapidly began to provide rehabilitative services rather than hospital diversion (3,7). In much of the United States, Medicaid reimbursement systems created incentives to provide day treatment services and to keep clients in them for long-term rehabilitative care. However, the research evidence indicates that day treatment does not rehabilitate clients in terms of helping them obtain jobs in the community (8). Furthermore, with the advent of managed care, the sizable costs of day treatment programs are coming under closer scrutiny (9,10).

Since the development of the community support program model in the 1970s (11), progressive state mental health systems throughout the United States have sought to increase the integration of persons with severe mental illness into the community. One factor that has facilitated the achievement of this goal has been the emergence of supported employment as an evidence-based practice and as a potential alternative to day treatment.
Supervised employment refers to employment at prevailing wages in regular, integrated work settings with the provision of ongoing support services (12). Clients in supervised employment typically work part-time in normal work settings with the same supervision, responsibilities, and wages as nondisabled workers. Thus supervised employment is an alternative day-time activity that can replace day treatment. It can help fulfill consumers’ desire to work, and it supports the goal of community integration. Results of early controlled studies of supported employment for persons with severe mental illness were promising, on average showing a threefold increase in rates of competitive employment (13). Recently these findings were reinforced by results from a multisite initiative (14). Managed care organizations, state departments of mental health, federal agencies, and advocacy groups are paying more attention to supervised employment as an evidence-based practice for persons with severe mental illness (15–17).

A majority of persons with severe mental illness express the goal of participating in competitive employment (18). They prefer competitive employment to sheltered workshops (19), day treatment programs (20), and psychosocial rehabilitation programs (21). Unfortunately, vocational services are given low priority in most mental health systems. Both clients and family members identify employment as the highest-ranking unmet need (22, 23). Less than 25 percent of clients with severe mental illness receive any form of vocational assistance (24–26), and community mental health centers devote only about 6 percent of their total budgets on average to vocational services (24). A recent five-state study found that a mere 2 percent of clients with severe mental illness were participating in supervised employment programs (27).

Several studies have demonstrated the feasibility of converting day treatment programs to supported employment programs. In the first published study of such conversions (28), a New Hampshire community mental health center that eliminated its day treatment program because of budget cuts and replaced it with a small supported employment program was compared with a second site that continued its day treatment program along with traditional brokered vocational services. In the program that was converted to supported employment, clients’ rate of competitive employment increased from 33 percent to 56 percent, whereas no change was seen for clients in the comparison program. Adverse outcomes—hospitalization, incarceration, homelessness, suicide attempts, or dropouts—did not increase among clients in the program that underwent conversion. Clients in the converted programs took place 18 months later; follow-up for clients in the converted and a comparison program that maintained day treatment with a stepped approach to vocational services. Participants were assessed at baseline and again at follow-up 30 to 36 months later; follow-up for clients in the converted programs took place 18 months after the conversion was completed. An independent research team conducted the interviews and evaluation.

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Participants

Clients eligible for the study were those 18 to 65 years of age who had a severe mental disorder with pro-
longed disability, who had attended
day treatment in one of three Rhode
Island community mental health cen-
ters for at least eight days in the past
six months, who were currently un-
employed, who did not have any se-
vure medical or cognitive impairment
that would preclude employment and
participation in the evaluation, and
who provided informed consent.

Informational meetings with cli-
ents, families, and mental health
providers were used to recruit partic-
ipants for the study. Eligible clients
gave informed consent before com-
pleting interviews. From the three
centers, 127 of 170 eligible clients
(74.7 percent) volunteered to partici-
rate in the evaluation. The participation
rate did not differ across the
three centers.

Complete vocational follow-up data
were obtained for 114 of the 127 par-
ticipants (89.8 percent). Their mean±
SD age was 44.4±10.3 years; 58 (50.9
percent) were female, 93 (81.6 per-
cent) were non-Hispanic white, and
48 (45.3 percent) had less than a high
school education. Only one of the 114
was married. The majority had dia-
noses of schizophrenia spectrum dis-
orders (73, or 64 percent) or mood
 disorders (27, or 23.9 percent). Only a
third (N=37) had worked in a com-
petitive job at any time during the
previous five years. Participants from
the three community mental health
center programs were similar in de-
ographic, clinical, and vocational
characteristics, with the exceptions of
race and diagnosis. Program A, one of
those undergoing conversion, had a
larger proportion of nonwhite partic-
ants, mostly Hispanic (32.6 percent
versus 20 percent and 2.4 percent;
χ²=12.74, df=2), p.<.01. Program B,
the other conversion program, had a
larger proportion of participants with
schizophrenia spectrum disorders
(83.3 percent versus 55.8 percent and
58.5 percent; χ²=11.90, df=2, p.<.02).

Attrition was similar in the three
programs. Of the 13 clients who were
missing at follow-up, five had moved
out of the area, four had died, two
had been placed in nursing homes,
one had been discharged, and one
had been hospitalized soon after
baseline and remained hospitalized
throughout the follow-up period.

**Programs**

Three Rhode Island community
mental health centers of similar size
participated in the evaluation. Lead-
ers of all three centers agreed to dis-
continue their day treatment pro-
grams and establish supported em-
ployment services, and administrators
in center C agreed to delay their con-
version and to serve as a comparison
site for the initial evaluation. Thus
center C continued its day treatment
program three days a week and con-
tinued to offer vocational assistance
that included supported employment
as well as help in obtaining volunteer
and sheltered workshop jobs. Center
A provides services for persons in

It may
be that keeping
people in segregated, low-
expectation settings such as
day treatment centers has
the unintended effect
of socializing
them into
disability.

small mill cities and serves the largest
Hispanic population in the state, and
center B serves a suburban setting
with the most affluent population
of the three centers. Center C, the com-
parison site, is situated in the most ru-
ral of the study sites.

The conversion programs adopted
a standardized approach to supported
employment called individual place-
ment and support (34). In this model,
employment specialists join existing
clinical teams to help interested
clients find competitive jobs that
match their interests and to coordinate
long-term job support services
offered by the team for clients who
are working. The individual place-
ment and support approach has been
standardized by a manual (35), specif-
ic training procedures (36), and a fi-
delity scale (37). In studies in a variety
of settings the model has produced
consistently positive vocational out-
comes (38).

The program conversions to sup-
ported employment followed a leng-
thy consensus-building process.
After several months of discussions
with staff, clients, and families about
the principles and practices of sup-
ported employment, day treatment
counselor positions were converted to
employment specialist positions. The
employment specialists and their su-
pervisors received two days of sup-
ported employment training that in-
cuded visits to mature programs. A
vocational trainer provided weekly
training sessions and supervision until
the on-site supervisors were ready to
take over. Fidelity ratings (37) were
used to monitor implementation and
to provide regular feedback to the
teams and their supervisors about
progress and areas for improvement.
Both programs achieved ratings of
good fidelity within 12 months.

**Measures**

Participants were assessed at baseline
during the fall of 1995 and again 30 to
36 months later—18 months after
complete conversion for the support-
ed employment sites—by indepen-
dent research interviewers using an
interview that incorporated sections of
several standardized instruments.
Participants’ demographic character-
istics, clinical history, and housing sit-
suation were assessed with standard-
ized questions from well-validated re-
search interviews. The Employment
and Income Review (39) was used to
assess their work history, entitle-
ments, and finances. The Global As-
essment Scale (40) was used to rate
participants’ overall functional status,
the expanded Brief Psychiatric Rating
Scale (41) to assess symptoms, and
the Rosenberg Self-Esteem Scale
(42) to assess self-esteem.

To detect changes in social sup-
ports, we used the Quality of Life In-
terview (43), which assesses the num-
ber of and satisfaction with social con-
tacts, in person or by telephone, and
satisfaction with social relationships. We expanded the instrument to cover relationships with other consumers, with friends outside of the mental health system, with family, and with mental health staff, and we incorporated an overall rating, which was the total number of social contacts.

Participants' clinical diagnoses were obtained from community mental health center records. Center staff collected data weekly on hours and wages of competitive employment, which is defined by federal standards as work in the competitive job market at prevailing wages and supervised by personnel employed by the business.

Statistical analyses
We used one-way analysis of variance for continuous variables and chi square tests for discrete variables to examine the equivalence of the participants from the three programs at the baseline assessment point. Vocational outcomes during the postconversion period were analyzed with two-way analyses of variance with group (program A, B, or C) and work history, which was a dichotomous variable indicating whether the participant had been engaged in any work in the past five years, defined as between-subjects factors.

Because our primary hypothesis was that clients in the two programs that underwent conversion to supported employment would have better vocational outcomes than clients in the program that did not convert, we used a planned comparison to test the difference between programs A and B on the one hand and program C on the other. We also investigated group differences for nonvocational outcomes, which were assessed by interview at baseline and at follow-up 30 to 36 months later. We used repeated-measures multivariate analysis of variance, with group as the between-subjects factor and time—baseline versus follow-up—as the repeated measure, so that the interaction indicated program differences in change over time. We tested the planned comparison of programs A and B versus program C on the change scores derived from subtracting baseline from follow-up scores. The dichotomous outcome variable, employment versus no employment, was analyzed with a generalized linear mixed model using the SAS GLIMMIX macro (44).

Results
Vocational outcomes
Employment rates among clients in program C, the comparison program, held constant at about 5 percent each month, whereas rates among clients in the two programs that underwent conversion to supported employment climbed to rates between 15 percent and 35 percent per month after conversion. These monthly differences led to an overall difference in employment rates across the three centers during the study period, with higher rates for programs A (44.2 percent) and B (56.7 percent) than for program C (19.5 percent).

Table 1 presents the results for vocational outcomes. The main effects for both program and work history were significant for all employment outcomes, indicating that there were differences between programs and that persons who had worked during the previous five years had greater success than those who had not. Significant interactions for total hours and number of weeks of work are due

<table>
<thead>
<tr>
<th>Variable</th>
<th>Program A (N = 43)</th>
<th>Program B (N = 30)</th>
<th>Program C (N = 41)</th>
<th>F test Program (df=2)</th>
<th>Work history (df=1)</th>
<th>Program by work history (df=2)</th>
<th>t test (df=1)</th>
<th>Effect size</th>
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<td>Obtained work</td>
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<tr>
<td>Had work history</td>
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<td>6</td>
<td>6</td>
<td>4.4**</td>
<td>6.9**</td>
<td>0.1</td>
<td>7.3**</td>
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<td>10</td>
<td>2</td>
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<tr>
<td>Total hours worked (mean±SD)</td>
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<tr>
<td>Had work history</td>
<td>965.4±144.1</td>
<td>194.9±137.4</td>
<td>152.9±113.9</td>
<td>9.3**</td>
<td>15.4**</td>
<td>6.9**</td>
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<td>11.8±91.7</td>
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<td>Had work history</td>
<td>3,674.5±768.9</td>
<td>1,552.5±733.1</td>
<td>1,228.1±607.9</td>
<td>3.2**</td>
<td>12.8**</td>
<td>1.9</td>
<td>3.3</td>
<td>0.23</td>
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<tr>
<td>Had work history</td>
<td>44.5±7.1</td>
<td>24.2±6.8</td>
<td>8.1±5.6</td>
<td>9.1**</td>
<td>14.4**</td>
<td>3.8**</td>
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<td>No work history</td>
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<td>0.6±4.5</td>
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1 Dichotomous variable, analyzed with SAS GLIMMIX macro
*p<.05
**p<.01
to stronger effects of supported employment for clients who had not worked during the previous five years. That is, both groups improved, but clients who did not have a work history improved more than those who had. The planned comparisons were significant for the overall employment rate, total hours of work, and number of weeks of work and were nearly significant for total wages. Effect sizes for the planned comparisons varied from .23 to .61, with large effects for work history and weeks of work (45).

Nonvocational outcomes

As Table 2 shows, most of the tests of nonvocational outcomes were not statistically significant. No program differences, temporal changes, or interactions for symptoms, self-esteem, and hospitalization rates were detected. No program differences or time differences were detected for overall number of social contacts, but the interaction was significant. The mean number of social contacts increased for clients in program A, decreased for clients in program B, and stayed about the same for clients in program C. The planned comparison of programs A and B versus program C was not significant.

Examining social support with specific groups of other consumers, nonconsumer friends, family, and mental health staff (data not shown) revealed similar findings. The increase in mean number of social contacts for clients in program A, from 11.4 to 13.8 contacts per week, reflected increases in contacts with nonconsumer friends, family, and mental health staff. The decrease in overall contacts for clients in program B, from 15.5 to 11.2 contacts per week, was based on decreases in contacts with all four groups—consumers, nonconsumers, family, and staff. Nevertheless, no changes in satisfaction occurred with any of these changes in number of social contacts. The planned comparisons also were not statistically significant in any of these analyses.

Discussion

This study provides further evidence that day treatment programs in mental health settings can be converted to supported employment programs, providing strong benefits and carrying little risk. As in previous studies (28–32), clients in two routine mental health settings in Rhode Island were able to make the transition without untoward effects and, for many of the clients, with the benefit of vocational experiences in community work settings. The notable improvements in competitive employment outcomes in these conversions are all the more remarkable for the studies’ inclusion of all day treatment clients, not just those who expressed interest in working or who signed up for employment services. In Rhode Island, as elsewhere, staff and clients noted the
postconversion differences in terms of higher expectations and hopes for the future.

Although in our study no group changes were noted in symptoms, self-esteem, or quality of life, other research has shown that clients who are working in competitive employment or who become good workers benefit in nonvocational areas (46, 47). These changes typically are not seen at the program level because many clients do not work at all or do not become consistent workers over time.

There is little evidence that rehabilitative day treatment—an expensive service—either promotes rehabilitation or protects clients from poor outcomes. Furthermore, it seems clear from interviews (19–21) and ethnographic studies (48–50) that clients experience day treatment as demeaning and would prefer competitive employment as an alternative. It may be that keeping people in segregated, low-expectation settings such as day treatment centers has the unintended effect of socializing them into disability, just as long-term hospitalization did earlier this century.

Findings on social outcomes from the Rhode Island project are less clear. Clients in both programs that underwent conversion to supported employment were encouraged to participate in existing social programs in the community to replace the social support offered previously by day treatment programs. Clients in program A reported more social contacts after the conversion, but clients in program B reported fewer.

The differences between the two programs could not be readily explained, even in follow-up interviews with staff and clients, who were unaware of any changes. One possibility is that the differences were not meaningful, particularly as clients in both conversion programs as well as in the comparison program did not become isolated and reported no change in satisfaction with their social supports. Other possibilities include measurement problems or factors the participants were unaware of. Social functioning should be explored further, because isolation and loneliness in the community are concerns often expressed by persons with severe mental illness and their families.

One caveat concerning the recent studies of day treatment closures is that they have all been in New England states known for having relatively well-funded and effective mental health programs. Closing day treatment programs in settings that lack a bedrock of competent clinical services may be considerably more difficult, just as closing hospitals has been problematic in states that lack adequate community-based services. This study was also limited by the particular characteristics of the community mental health centers involved, including small population size, high client motivation, and lack of racial diversity.

Conclusions
This study contributes to the literature showing that rehabilitative day treatment programs can be converted to supported employment programs with positive employment outcomes and without negative outcomes. Although clients generally appeared to be able to transfer social participation and maintain social satisfaction, this aspect requires further study.

Acknowledgments
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