A Peer-Support, Group Intervention to Reduce Substance Use and Criminality Among Persons With Severe Mental Illness

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Objective: **This study compared the effectiveness of two interventions in reducing alcohol use, drug use, and criminal justice charges for persons with severe mental illnesses: first, a community-oriented group intervention with citizenship training and peer support that was combined with standard clinical treatment, including jail diversion services, and second, standard clinical treatment with jail diversion services alone.** ***Methods:*** **A total of 114 adults with serious mental illness participated in a 2×3 prospective longitudinal, randomized clinical trial with two levels of intervention (group and peer support for the experimental condition and standard services for the control) and three interviews (baseline, six months, and 12 months). Self-report questionnaires assessed alcohol and drug use, and program databases assessed criminal justice contacts. The authors used a mixed-models analysis to assess alcohol and drug use, repeated-measures analysis of covariance to assess criminal justice charges, and correlational analyses to assess the relation between intervention participation and outcome variables.** ***Results:*** **The experimental group showed significantly reduced alcohol use in comparison with the control group. Further, results showed a significant group-by-time interaction, where alcohol use decreased over time in the experimental group and increased in the control group. Drug use and criminal justice charges decreased significantly across assessment periods in both groups.** ***Conclusions:*** **Of the outcomes, only decreased alcohol use was attributable to the experimental intervention. Although this may be a chance finding, peer- and community-oriented group support and learning may facilitate decreased alcohol use over time. (*Psychiatric Services* 58:955–961, 2007)**

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Estimates of co-occurring alcohol and drug use disorders among people with mental illness range from 41% to 70% (1,2). Risk factors for this population include poverty, homelessness, incarceration, and unemployment (3). Approximately 800,000 persons with mental illnesses enter jails and prisons each year (4), and 70% have a co-occurring alcohol or substance use disorder (5).

Nationally, efforts are under way to improve the lives and conditions of persons with co-occurring disorders and a criminal justice history (1,2,4). Programs developed to address the needs of individuals with co-occurring disorders include integrated treatment, dual recovery therapy, cognitive-behavioral therapy, case management, Alcoholics Anonymous (AA) 12-step integration, motivational interviewing, outreach and engagement, assertive community treatment, "staged" or "readiness" approaches, and community reinforcement (6,7). Most of these programs use a combination of approaches from the alcohol and drug abuse treatment and mental health fields. In Drake and colleagues' (6) review of 26 dual-disorder programs, the outcomes for recovery, reduced alcohol use, and hospitalizations improved as the degree of program integration increased.

Less studied is the rate of criminal behavior as an outcome of program participation. Essock and colleagues (7), comparing assertive community treatment and standard case management for individuals with co-occurring disorders, found similar reductions in substance use for both groups but also found that participants in both groups spent about three times as many days incarcerated as in the hospital. Calsyn and colleagues (8) found similarly poor results regarding criminality for homeless persons with co-occurring disorders who received assertive community treatment, integrated treatment, or standard treatment. In addition, participants with more serious substance abuse (nonprescribed drugs and alcohol) problems reported more substance use offenses and were more likely to be arrested.

Jail diversion programs were developed to reduce incarceration rates for persons with psychiatric disorders who commit low-level offenses by diverting them from the criminal justice to the mental health system (9). Diversion is accomplished through clinician negotiation (with client agreement) with court personnel to have charges dropped or stayed in exchange for the client's agreement to pursue mental health treatment and through related approaches (10,11). Outcome studies show mixed results, some indicating a decrease in substance use (12) and arrests (13,14), others showing similar results or no differences between those who were and were not diverted (10), and others showing continued high rates of criminal recidivism after initially successful diversion (15).

Our own approach to addressing the substance use and criminality problems of persons with serious mental illness is built on a theoretical framework of "citizenship" derived from our research on outreach to persons with mental illness and homelessness (16–18). We define citizenship as a measure of the strength of people's connections to the rights, responsibilities, roles, and resources available to people through public and social institutions and through the informal, "associational" life of neighborhoods and local communities (16,18). This framework draws on social science theories of citizenship that emphasize civic participation as a measure of one's involvement in society (19) and the need to create participation opportunities for members of marginalized groups (20). It also draws on social capital theory, which emphasizes the importance of social networks in enhancing people's participation in society (21,22). In addition, the citizenship framework shares common ground with community mental health approaches, such as self-efficacy for persons with mental illness (23,24), the strengths-based emphasis of psychiatric rehabilitation (25,26), and social integration, with emphasis on supporting clients' access to housing, work, friends, and public and social activities (27). Finally, the concept of citizenship as full participation in society has been applied recently in research regarding civic reintegration of criminal offenders (28).

Our approach also draws on theory and recent research suggesting that peer staff, with their personal knowledge of coping with psychiatric disabilities and attendant stigma in society, have a special ability to engage clients and support them in their own recovery (29–31).

We used the citizenship framework with integrated peer support to develop an intervention for persons whose mental illnesses, alcohol and drug use, and criminality posed serious barriers for their community stability and participation. We hypothesized that those receiving the citizenship intervention along with standard services, which included jail diversion, would show lower levels of alcohol use, drug use, and criminal charges over time in comparison with those receiving standard services with jail diversion only. Participants in both conditions received treatment from the same pool of clinicians. To evaluate these hypotheses we conducted an investigation from June 2002 to November 2003, which used a 2×3 prospective longitudinal, randomized clinical trial design with two levels of intervention, comprising the citizenship intervention plus standard services (experimental) and standard services only (control) across three evaluation periods (baseline, six months, and 12 months). Assessment procedures included interviewing participants concerning alcohol and drug use and reviewing public databases on criminal charges.

Methods

Participants and procedure

We received approval for this study from the institutional review board of our university. Participant selection criteria included adults with severe mental illness who had criminal charges within the two years before enrollment in the study. We provided information on the study through postings at a local social rehabilitation center and emergency shelter, in social service agency newsletters, and at an information table at a local mental health center. We enrolled 114 participants, with an average age of 39.8±8.8. Seventy-eight (68%) were men. Participants' racial and ethnic background included 66 African Americans (58%), 35 Caucasians (31%), three Native Americans (3%), nine who endorsed an "other" category (8%), and one person who elected not to identify an ancestry (1%). Seventeen participants endorsed Hispanic ethnicity (15%). All were receiving outpatient treatment. After giving informed consent, participants in both conditions completed interviews at baseline, six months, and 12 months and responded to questionnaires that included considerations of alcohol and drug use. Drug testing was not conducted as part of the study.

Forty-one participants (36%) were randomly assigned to the control, or "standard services" condition, which included individual and group treatment with medication management, case management, and jail diversion services in which clinicians assigned to the local criminal court worked with defendants, public prosecutors, and judges to divert defendants with mental illness to mental health treatment (10). Seventy-three participants (64%) were diverted to the experimental condition, which consisted of the standard services described above and the citizenship intervention (discussed below). Randomization re-

flected a 2:3 control-intervention procedure designed to maintain sufficient numbers in the group components of the intervention.

A total of 111 participants (97%) had either a primary or secondary diagnosis of psychiatric illness, 48 (42%) had a primary or secondary drug use diagnosis, 35 (31%) had an alcohol use diagnosis, and 80 participants (70%) had co-occurring psychiatric and substance or alcohol use diagnoses. As detailed in Table 1, proportional diagnostic distributions were equivalent across the two groups. A Pearson chi square test yielded no systematic relationship between condition and diagnosis. All participants had a recent criminal history, with charges ranging from violations to felonies.

Table 1

Diagnoses of 114 participants with mental illness who received standard jail diversion services or standard services plus citizenship training and peer support

Diagnosis[a]	Diversion and citizenship training		Diversion only		Overall	
	N	%	N	%	N	%
Primary						
Psychotic disorder	26	36	17	42	43	38
Major mood disorder	29	40	17	42	46	40
Alcohol use disorder	4	6	1	2	5	4
Drug use disorder	5	7	3	7	8	7
Other disorder	9	12	3	7	12	10
Secondary						
Psychotic disorder	2	3	1	2	3	3
Major mood disorder	6	8	2	5	8	7
Alcohol use disorder	17	23	13	32	30	26
Drug use disorder	27	37	13	32	40	35
Other disorder	12	16	5	12	17	14

[a] Ninety-eight participants (86%) had a secondary diagnosis.

Program context

We conducted our research at an urban public mental health center in Connecticut. The experimental intervention involved a group component consisting of classes with topics related to social participation and community integration (citizenship classes) followed by projects designed to foster participants' acquisition of valued social roles (valued-roles projects), with wraparound peer mentor support to participants. Both citizenship classes and valued-roles projects were ongoing components of this program. Participants in this study who had previous or ongoing involvement with the program were invited to attend (repeat) classes as well, with their prior attendance added to the class count under the current study. Participants received $10 stipends for attendance at each class and valued-roles project meeting.

Intervention participants were each assigned a peer mentor. Of the six peer mentors who worked with the project during the study period, all were diagnosed as having a serious mental illness and were in treatment. The three who worked most intensively with participants had co-occurring drug or alcohol use disorders, and two had a criminal justice history. Peer mentors with co-occurring disorders were required to have at least one year of sobriety. All peer mentors completed an intensive training program concerning confidentiality, the client engagement process, cultural competence, and the distinctive roles of criminal justice and mental health treatment system personnel. Working part-time and meeting with clients an average of once weekly over the intervention period of four months, with less frequent and formal follow-up contact in some cases after the intervention, peer mentors supported participants by helping them to identify goals and set priorities for achieving them, sharing their own perspectives and coping strategies as people who have "been there," and advocating for participants' access to social services, employment, education, and housing.

Peer mentors encouraged participants to maintain their sobriety by offering examples of their own struggles and recovery work and providing social support and friendship to them. Peer mentors appeared to combine the functions of case manager with consumer experience, role model, and "paid friend" in a distinctive way that facilitated relationships less formal than in case management but more formal than in friendship. With participants' permission, mentors occasionally contacted clinicians to discuss plans regarding participants' housing, criminal justice obligations, and other issues or in cases of psychiatric crisis. The peer mentors, however, did not take on monitoring functions regarding participants' criminal justice obligations, and the intervention was not used as a stipulation for meeting those obligations.

The primary objectives of the citizenship classes component of the intervention were to enhance participants' knowledge of available community resources, their problem-solving and other life skills for daily living, and their ability to establish social networks based on mutual trust and shared interests. A project director facilitated twice-weekly two-hour classes of six to ten participants over an eight-week period. The classes, which were held at a local church that houses a community soup kitchen frequented by many of the participants, shared similarities with social rehabilitation and social skills programs yet emphasized both group support and community contacts via class presentations by community members.

Class topics included negotiating the criminal justice system, vocational and educational programs, local housing options, problem solving, public speaking, relationship building, social integration, and advocacy and self-help groups, including AA and Narcotics Anonymous (NA). Participants developed classroom rules and norms and helped to shape the content of the classes through requests for outside speakers or addi-

Table 2

Results of Addiction Severity Index alcohol use subscale among intervention and control groups by evaluation period[a]

Alcohol use	N	%[b]	M	SD
Time 1 (baseline)				
Intervention	73	64	.14	.18
Control	41	36	.09	.13
Total	114	100	.12	.17
Time 2 (6 months)				
Intervention	41	60	.10	.18
Control	27	40	.10	.13
Total	68	100	.10	.16
Time 3 (12 months)				
Intervention	40	58	.07	.13
Control	29	42	.11	.16
Total	69	100	.09	.14

[a] Possible subscale scores range from 0 to 1, with higher scores indicating greater problem severity.
[b] Percentages are calculated relative to the respective time period totals.

tional topics. The citizenship classes focused on full and valued participation in community life and encouraged participants' interaction with outside speakers. Of the 73 participants, 33 attended 16 or more classes, 21 attended one to 15 classes, and 19 did not attend any classes. Overall, the mean participant attendance at citizenship classes—including those whose repeat participation exceeded the 16 "standard" class count—was 10.6±8.5.

A second eight-week valued-roles component encouraged participants to contribute to their communities by drawing on their life experiences and skills gained through the classes and contacts with community presenters. Participants designed and participated in education-focused projects, such as teaching police cadets about consumers' encounters with police officers and conducting a fundraiser for a local nonprofit organization.

Valued-roles projects gave participants an opportunity to challenge their underestimations of their capabilities and explore their interests in a supportive environment. Community members learned that participants can fulfill valued roles in society. Although most valued-roles projects were completed successfully, participants sometimes felt their community audience did not respond as favorably or as quickly as they had hoped—not donating as generously to a food drive project as initially anticipated, for example. However, such experiences also became a source of group support and learning about the frustrations of translating personal growth into positive action and acceptance in the social world. Of the 73 participants, 15 attended 16 or more valued-roles meetings, 20 attended one to 15 meetings, and 38 did not attend any meetings. Overall, the mean participant attendance at valued-roles meetings was 6.7±8.4.

Measures

Addiction Severity Index (ASI). The ASI is a structured interview for gauging the degree of potential treatment barriers across domains typically affected by alcohol and drug use disorders, including psychiatric and social considerations (32). For this investigation, we used only the alcohol and drug use ASI subscales. The alcohol use subscale concerns the frequency and severity of use in the past 30 days, whereas the drug use subscale concerns the frequency and severity of use of various substances (such as cocaine and heroin) during the same period. The ASI has been rigorously assessed within similar client populations and shown to be both a reliable and valid way to assess alcohol use and drug use and their consequences (33).

Criminal justice data. We obtained criminal justice data from a nonconfidential state court docket management system containing information on criminal charges, arraignment and disposition dates, and disposition types for all persons within the Connecticut criminal justice system. We categorized criminal charges in terms of severity: felony, infraction, misdemeanor, or violation. For the purposes of this study we focused on criminal charges, where each was weighted equally and counted only once regardless of charge type.

Statistical analyses

To assess our hypotheses concerning alcohol and drug use, we used general linear mixed-models procedures, which were particularly appropriate given the multiple missing data points within these data sets (34), a problem common to longitudinal research involving persons with co-occurring disorders and criminal justice backgrounds (35,36). Given complete data, we used a repeated-measures analysis of covariance (ANCOVA) to assess our criminal justice charges hypothesis. We also used correlational analyses to assess the relation of intervention class attendance to outcome. For the alcohol and drug use data, gathered via participant interview as noted above, the overall sample showed 23% attrition from time 1, with 20 participants missing the time 2 (six-month) interview but returning for the time 3 (12-month) interview and 19 participants missing the time 3 interview. Chi square analyses confirmed that attrition and missing data were not systematic to condition. Analyses controlled for baseline variable levels, and within mixed-models procedures concerning alcohol and drug use, each analysis controlled for both baseline alcohol and drug use, given their documented association (37).

Results

Controlling for baseline levels of alcohol and drug use, mixed-models analysis showed that those who received the citizenship intervention had overall significantly lower levels of alcohol use across six- and 12-month follow-up periods than those in the control group ($F=12.12$, $df=1$ and 227, $p<.005$, $\eta^2=.05$) (Table 2). Moreover, the analysis also yielded a significant interaction, where inter-

vention participants showed decreasing levels of alcohol use across follow-up periods and control group participants showed increasing levels of alcohol use across the same follow-up periods ($F=3.90$, df=2 and 227, $p<.05$, $\eta^2=.03$). Baseline ASI alcohol use composite scores were noted to be just slightly lower than that of normative data concerning persons with both criminal justice backgrounds and substance use disorders (38).

Again controlling for baseline levels of drug and alcohol use, mixed-models analysis concerning drug use revealed a significant main effect for time ($F=4.17$, df=2 and 227, $p<.05$, $\eta^2=.04$), where both groups showed decreases in their nonalcohol drug use across assessment periods (Table 3). Baseline ASI drug use composite scores were noted to approximate those of persons with substance use disorders receiving community-based outpatient services (38).

Controlling for baseline levels of criminal justice charges, repeated-measures ANCOVA yielded a significant main effect for time ($F=4.30$, df=1 and 111, $p<.05$, $\eta^2=.04$), with both groups decreasing in the number of new criminal charges from zero to six months and from six to 12 months (Table 4).

The intervention showed no main effect for drug use or criminal justice involvement.

Partial correlational analyses of outcome variables at times 2 and 3 with attendance at intervention classes controlling for baseline variable levels within the experimental group largely showed no significant relationship between outcome and class attendance level, with one exception: criminal charges at time 2 were negatively correlated with attendance at valued-roles classes (Table 5).

Discussion

Our initial research suggests that the citizenship intervention may be effective in reducing alcohol use among persons with severe mental illness and a criminal history. Findings did not support our hypothesis that the intervention group would have significantly less nonalcohol drug use and fewer criminal justice charges than the control group, where both groups posted decreases over time. Findings suggest the possibility that the intervention, combined with mental health treatment and jail diversion services, can contribute to supporting more stable community tenure for the target population.

The findings noted above could carry a particular significance for persons with co-occurring severe psychi-

Table 3

Results of Addiction Severity Index drug use among intervention and control groups by evaluation period[a]

Drug use	N	%[b]	M	SD
Time 1 (baseline)				
Intervention	73	64	. 09	. 09
Control	41	36	. 05	. 06
Total	114	100	. 07	. 08
Time 2 (6 months)				
Intervention	41	60	. 04	. 06
Control	27	40	. 07	. 09
Total	68	100	. 05	. 07
Time 3 (12 months)				
Intervention	40	58	. 04	. 05
Control	29	42	. 04	. 07
Total	69	100	. 04	. 06

[a] Possible subscale scores range from 0 to 1, with higher scores indicating greater problem severity.
[b] Percentages are calculated relative to the respective time period totals.

Table 4

Means and standard deviations for criminal justice charges among intervention and control groups by evaluation period[a]

	Control (N=41)		Intervention (N=73)		Total (N=114)	
Charge	M	SD	M	SD	M	SD
Misdemeanor[b]						
6 months before time 1	.78	1.33	.93	1.69	.88	1.57
Time 2	.46	1.03	.89	1.50	.74	1.36
Time 3	.27	.63	.53	1.30	.44	1.11
Infraction[b]						
6 months before time 1	.12	.51	.16	.53	.15	.52
Time 2	.15	.48	.08	.28	.11	.36
Time 3	.00	.00	.05	.23	.04	.18
Felony[b]						
6 months before time 1	.05	.22	.23	.64	.17	.53
Time 2	.10	.49	.19	.46	.16	.47
Time 3	.02	.16	.10	.30	.07	.26
Violation[b]						
6 months before time 1	.05	.22	.07	.30	.06	.28
Time 2	.05	.22	.01	.12	.03	.16
Time 3	.02	.16	.07	.30	.05	.26
Total charges[b]						
6 months before time 1[c]	1.00	1.53	1.40	2.38	1.25	2.12
Time 2	.76	1.50	1.18	1.87	1.03	1.75
Time 3	.32	.76	.75	1.71	.60	1.46

[a] Possible scores reflect counts of criminal justice charges, with higher scores indicating more criminal charges.
[b] Time 1, baseline; time 2, baseline to 6 months; time 3, six to 12 months
[c] Represents baseline values

Table 5

Partial correlations of outcome variables at times 2 and 3 with intervention class attendance controlling for time 1 variable levels within the experimental condition[a]

Outcome variable	df	Citizenship	Valued roles	All classes
Alcohol use time 2	38	.08	.08	.09
Alcohol use time 3	37	.20	.08	.15
Drug use time 2	38	–.18	–.07	–.13
Drug use time 3	37	.04	.04	.04
Criminal charges time 2	70	.09	–.24*	–.18
Criminal charges time 3	70	.10	–.04	.03

[a] Time 2, baseline to 6 months; time 3, six to 12 months
*p<.05

atric and drug use disorders, who formed the majority of our sample. For example, in an earlier study on the impact of alcohol use by persons with co-occurring disorders, Drake and colleagues (39) noted that such use was significantly associated with higher use of street drugs, social difficulties, increased symptoms, medical problems, and lower community tenure. Consequently, interventions that can favorably address alcohol use by persons with co-occurring disorders may hold promise across multiple domains of recovery.

The intervention described in this article may share useful elements with other programmatic initiatives such as integrated treatment and 12-step approaches modeled after AA, which have yielded favorable outcomes with regard to alcohol use among persons with co-occurring mental illness (40,41). Perhaps the intervention facilitated participants' involvement in AA, which would explain decreased alcohol use in the experimental group, because anecdotal evidence suggested that most participants who took prescribed psychiatric medications felt more comfortable attending AA than NA, where use of such medications may be more strongly disparaged. Because of resource limitations, we were not able to track participation in AA and NA for participants in both conditions after the intervention, but we hope to be able to do so in further research.

It is possible that a combination of clinically informed yet psychosocial aspects of the Citizens Project fostered reduced alcohol use by participants. This finding is complicated somewhat, however, by the fact that nonalcohol substance use decreased over time for participants in both conditions. We hope to explore the reason for this dual finding in further research.

This research was limited in several ways that merit attention. First, our research design involved comparison of standard treatment alone with standard treatment plus the experimental intervention. It is possible that the extra assistance that intervention participants received facilitated the outcomes we found, independent of the specific elements of that assistance. Second, our design did not allow us to differentiate the relative importance of peer mentor, class, and valued role components in producing our findings. Further research, including a programmatic components analysis, may help to identify the most promising features of the intervention and further specify the intervention for possible replication. Third, although we conducted focus groups and participant observation, we did not conduct a full-scale qualitative study, which might have helped us to understand why, for example, participants in the experimental condition used less alcohol over time and those in the control condition used more. Fourth, although our findings of reduced alcohol use for intervention participants and reduced drug use and criminality for all participants point to the possibility of facilitating the increased community tenure of our target population, our study design did not permit significant qualitative-ethnographic research on the institutional and community contexts that affected participants' prospects of becoming "full citizens." Fifth, our sample was small and so raises concerns regarding this study's statistical and external validities. Although statistical validity is less of a concern here because we garnered statistically significant results, further research on these matters would profit by incorporating and maintaining larger samples for the purposes of enhancing generalizability. We hope to correct for these limitations in future research.

Conclusions

The Citizens Project is a promising intervention that has demonstrated positive outcomes in terms of alcohol use for persons with severe mental illness and a criminal justice history. Future research and programmatic efforts will help us understand the mechanisms by which this intervention helps the target population, as well as ways in which its positive effects can be enhanced.

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