

Consumer-Providers in Assertive Community Treatment Programs: Associations With Client Outcomes

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Objective: This study examined whether employing mental health consumers as consumer-providers in assertive community treatment teams can enhance outcomes for clients with severe mental illness. **Methods:** In a prospective longitudinal study, presence of consumer-providers and outcomes of 530 clients with severe mental illness in 20 outpatient teams were assessed at baseline and at one-year and two-year follow-ups. Measures included the Health of the Nation Outcome Scales (HoNOS), the Camberwell Assessment of Need Short Assessment Schedule (CANSAS), the Working Alliance Scale, the number of hospital days, and the number of days of homelessness. Multilevel regression was used with the independent variables consumer-provider presence, time of measurement, and their interaction. **Results:** A positive association was found between consumer-provider presence and improvements in functioning on the HoNOS ($p=.020$), met needs in relation to personal recovery ($p=.044$), unmet needs in relation to personal recovery ($p=.008$), and number of homeless days ($p<.001$). A negative association was found for consumer-provider presence and the number of hospital days ($p=.019$). **Conclusions:** Consumer-providers are important participants in outpatient teams serving clients with severe mental illnesses, although integrating these providers as part of a team is a slow process. (*Psychiatric Services* 63:477–481, 2012; doi: 10.1176/appi.ps.201000549)

Consumer participation in mental health care is a rising movement. In the past, self-help and mutual support developed as alternatives to traditional mental health services (1). The impact of these activities, however, was small. Recently, consumers increasingly have been hired by mental health care institutions in an effort to reach a broader range of clients (2). The un-

derlying belief is that involving consumers improves the health and quality of life of clients (3).

Consumer involvement can contribute to the development of a mental health care organization that is recovery oriented rather than delivery driven. Consumer-providers bring a different perspective on the mental health care process. Including experiential knowledge is an asset in care.

The mere presence of consumer-providers is an example for clients and can give them hope (2,4). Consumer-providers may also influence their nonconsumer team members by demonstrating that recovery is possible (5).

Recently, many Dutch mental health care organizations adopted the integration of consumers in mental health services. This is partly due to the expansion of assertive community treatment (ACT) teams in the Netherlands, because having a consumer as a member of the ACT team is part of the treatment model (6). However, consumer-providers are confronted with barriers and dilemmas, such as role confusion, not being taken seriously as a mental health professional, dissatisfaction with payment (2,7), lack of counseling and supervision (8), paternalism, and stigma (9). There are also challenges at an organizational level, such as insufficient financial support for employment and caution by policy makers. Furthermore, policy makers and mental health system leaders have requested more outcome research (10).

A number of studies of consumer-provided (intensive) case management and crisis services have demonstrated improved client outcomes compared with the outcomes of nonconsumer-delivered services (11–13). Effects included a reduction in the use of hospital and crisis services (11), fewer hospital days (12), increased scores on measures of quality of life (14), and an increased number of

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days spent in stable housing (13). However, other studies found no differences in outcomes between teams with or without consumers (2,15–17).

More research is needed to clarify the effects of consumer-providers on client outcomes. This study assessed the outcomes of clients of 20 outpatient teams with or without consumer-providers. The purpose of the study was to examine whether employing consumers of mental health services as consumer-providers in outpatient teams can enhance outcomes for clients with severe mental illness.

Methods

Design

This study is part of a Dutch national study on ACT fidelity and outcomes conducted from 2005 to 2008 (18). In this study, 20 outpatient teams located in different regions of the Netherlands and serving clients with severe mental illness participated. The teams made different choices for the implementation of outreach care for patients. Adherence to ACT fidelity criteria was not always the aim (18). Likewise, using a consumer to provide services was not always an aspiration of the mental health organizations.

Clients included in this study had to meet two of the following criteria: a period of homelessness during the past year, an average of six outpatient contacts per month during the past year, a Global Assessment of Functioning (GAF) score of 40 or less at the time of study entry, and having had two hospital admissions or having been in the hospital for 50 days in the past year. Possible GAF scores range from 0 to 100, with higher scores indicating better functioning. With these research inclusion criteria, we were able to analyze the most severely mentally ill clients, the population for whom ACT was originally developed.

Measures

The primary outcome measures in this study were as follows: level of functioning, met needs, unmet needs, working alliance, number of hospital days, and number of homeless days. Clients were followed up for 24

months, with data collection conducted at baseline, 12 months, and 24 months.

Demographic data were collected about age, gender, living situation, marital status, education, and ethnicity. Diagnosis was assessed by the psychiatrist on the team in accordance with *DSM-IV* (19). Mental and social functioning was measured by the Health of the Nation Outcome Scales (HoNOS) (20). Needs for care were measured with the Camberwell Assessment of Need Short Assessment Schedule (CANSAS) (21). Working alliance was measured with the Working Alliance Scale (22). Societal participation, including employment status, and use of mental health care were also assessed.

The HoNOS is a widely used and valid 12-item observer-rated measure intended to map a patient's mental state and functioning. Possible scores range from 0 to 48, with higher scores indicating worse psychiatric and social functioning. In our analysis, we used the mean total score of the 12 items, which expresses the total level of functioning. The CANSAS is a measure assessing the health and social needs of people with mental health problems. We used the rater-perspective version. Possible scores range from 0 to 25, with higher scores indicating more unmet needs. For this study, we added three items on the 22-item CANSAS: personal recovery, paid employment, and side effects of medication (23). In the analysis, we included the total unmet needs and the total met needs with respect to the 25 items. In addition, we analyzed the unmet needs and met needs, both coded 0, no, or 1, yes, on personal recovery. The Working Alliance Scale measures the relation between the client and the (most involved) care worker from the perspective of the care worker. Possible scores range from 7 to 35, with higher scores indicating a better working alliance. In our analysis, we used the mean total score of the seven items, reflecting the overall working alliance.

The outcome data were collected by trained mental health care workers. To optimize reliable measures, we gave a central training before the

baseline assessments and booster sessions before the next follow-ups, one and two years later. We used the train-the-trainers method: the centrally trained care workers trained their team members at the sites.

Fidelity to the ACT model was assessed at baseline and at the two-year follow-up by independent raters with the Dartmouth Assertive Community Scale (DACTS), which was translated into Dutch (24). The process of measuring ACT fidelity has been reported in more detail elsewhere (18). The DACTS consists of 28 items, each rated on a 5-point scale ranging from 1, not implemented, to 5, fully implemented. Item 28 rates the availability of consumer team members. At the two-year follow-up, team members were asked to complete item 28 about the availability of consumer-providers at the one-year follow-up. Thereby, we had information about the availability of consumer team members at three time points.

The study was approved by an independent medical ethical committee (Medisch Ethische Toetsingscommissie instellingen Geestelijke Gezondheidszorg), and no informed consent was required.

Statistical analysis

We performed all analyses using the statistical program Stata, version 11.1. Because the data consisted of multiple measurements clustered in subjects (clients) and teams, the data were analyzed with multilevel (three-level) regression (25). We used the Stata commands *xtmixed* (for linear multilevel regression) and *xtmelogit* (for logistic multilevel regression). The dependent variables in the regression models were the outcome variables of level of functioning (HoNOS total score); total unmet needs (proportion of unmet needs); total met needs (proportion of met needs); unmet needs and met needs specifically for personal recovery; working alliance (total score); the number of hospital days for psychiatric problems; and the number of homeless days.

For each parameter (dependent variable), we tested consumer presence (coded 0, no, or 1, yes), time of measurement (coded 0, 1, or 2), and

the time \times consumer presence interaction, hereby correcting for age, ethnicity, gender, and the total fidelity score on the DACTS excluding the item about consumer participation in the team. We corrected for the total fidelity score, given that the correlation between consumer presence and the total fidelity score excluding item 28 was fairly high ($r=.61$). Random effects were modeled for the level parameters fixed for the independent variables. Our main hypothesis was reflected in a significant interaction term: the presence of a consumer-provider on a team yields more improvement over time.

Results

Baseline data

A total of 530 clients were included in the study (Table 1). After two years, we had collected outcome data for 321 (61%) of the clients. Twelve clients died—four as a result of suicide. Those who dropped out of the study (meaning that they were lost to follow-up because the mental health care workers were not able to collect the necessary data in due time) had significantly worse scores for the HoNOS total, unmet needs, and number of homeless days (18). Study dropout was not related to the presence of a consumer-provider.

At baseline, we found an association between presence of a consumer-provider and a number of severity-related problems. The presence of a consumer-provider was associated with worse baseline data on HoNOS total score ($t=-3.12$, $df=517$, $p=.002$), total unmet needs ($t=-3.96$, $df=526$, $p<.001$), and the number of homeless days ($z=-8.14$, $p<.001$, two-tailed, Mann-Whitney U test). However, no associations were found on working alliance, total met needs, unmet needs for personal recovery, and met needs for personal recovery.

Model fidelity:

consumer presence

Consumer presence was one of the worst-implemented elements of the ACT model in 2005; only four (20%) of the 20 teams had a consumer-provider. Five teams had the aim of employing a consumer within two years. More teams increased fidelity

Table 1

Demographic and illness characteristics of 530 clients in assertive community treatment, at baseline

Characteristic	N	%
Male	377	71
Age (M \pm SD)	41.6 \pm 11.3	
Dutch	272	51
Married or living with a partner	42	8
Has a paying job	12	2
Homeless	69	13
Homeless in the past year	168	32
GAF symptoms (M \pm SD) ^a	38.6 \pm 14.9	
GAF disability (M \pm SD) ^a	36.0 \pm 11.8	
Diagnosis of schizophrenia	406	77
Addiction problem	286	54
Hospitalized in the previous year	242	46

^a GAF, Global Assessment of Functioning Scale. Possible scores range from 1 to 100, with higher scores indicating better functioning.

on item 28 over the research period and by 2007, seven teams (35%) had fulfilled the role of consumer-provider. One team, which did not originally have the ambition to employ a consumer, had one by 2007. The consumer-provider in one team had changed jobs and had not been replaced.

Multilevel regression analyses of outcomes

Analysis of HoNOS scores revealed a significant interaction between consumer presence and the time of measurement. Clients had better outcomes on the HoNOS when a consumer-provider was present than when teams were without a consumer-provider. The analyses showed that the same association was present

for met and unmet needs related to personal recovery and for the number of homeless days (Table 2).

The finding for number of hospital days showed an inverse relation: Consumer presence was associated with an increased number of hospital days. There was no significant interaction effect between consumer presence and time of measurement with respect to CANSAS total met needs, CANSAS total unmet needs, and working alliance (Table 2).

Discussion

This study found that hiring consumer-providers in outpatient teams was associated with client outcomes. Specifically, we found an association between consumer presence and improvements on HoNOS total scores,

Table 2

Associations between presence of a consumer-provider and time of measurement, by outcome

Outcome	β	Odds ratio	z	95% CI	p
HoNOS total score ^a	-.09	—	-2.33	-.16 to -.01	.020
Total unmet needs ^b	.00	—	.05	-.02 to .02	.963
Total met needs ^b	.01	—	.71	-.01 to .03	.475
Homeless days	-36.60	—	-5.31	-50.11 to -23.08	<.001
Hospital days, psychiatric	15.04	—	2.34	2.46 to 27.61	.019
Working alliance ^c	.03	—	.54	-.08 to .14	.592
Unmet need, personal recovery ^d	—	.52	-2.65	.32 to .84	.008
Met need, personal recovery ^d	—	1.60	2.01	1.01 to 2.51	.044

^a HoNOS, Health of the Nation Outcomes Scale

^b Measured by the Camberwell Assessment of Need Short Assessment Schedule (CANSAS)

^c Measured by the Working Alliance Scale

^d Measured by a supplemental item on the CANSAS

number of homeless days, and met and unmet needs with respect to the specific item of personal recovery. We also found an association between consumer presence and an increased number of hospital days.

Previous research demonstrated an association between the addition of consumer-providers and a reduction in the use of hospital and crisis services (11), fewer hospital days (12), an increased number of days spent in stable housing (13), and increased quality of life scores (14). With the exception of quality of life, which was not assessed by this study, the results of the present study are partly in agreement with former research. We found a reduction in number of homeless days but no reduction of hospital days. The opposite association between consumer presence and the number of hospital days seemed initially counterintuitive. An explanation might be that consumer-providers heightened the attention to the clients' suffering and advocated for an intervention. It is possible that there was an association with the improvement in functioning and the increased hospital days.

Our results on level of functioning and met and unmet needs in relation to personal recovery are an addition to the studies mentioned. Given their personal experience of recovery, it is not surprising that consumer-providers can play a positive role in their clients' acceptance of their illness and recovery processes. Therefore, our results were in agreement with the specific power ascribed to consumer-providers.

Our data showed that employing a consumer in an outpatient team is innovative and not very common. At the start of the study, in 2005, only 20% of the teams had a consumer as team member. At that time, teams with a consumer-provider were pioneers in Dutch mental health. The growing interest in the use of the ACT model, which promulgates including a consumer on a team, was probably a moderating factor in employing consumers. Another impetus for hiring consumer-providers is an increasing focus on recovery and rehabilitation. Consumers can play an important role in this process. During our re-

search, the number of consumers in the outpatient teams increased, although by the end of the study, only 35% of the teams had hired a consumer. This shows that the employment of consumers requires attention and should be prioritized.

A strength of the present study was its longitudinal character and large number of teams. This was the first study of consumer-providers and outcomes with a large number of teams, a broad set of outcome measurements, and a correction for the nested data by using the multilevel regression technique. The study was limited because the client data were collected by trained mental health care workers, whereby the client view was missing. Another limitation was that we did not have interrater reliability data.

Our naturalistic study does not allow us to clarify which processes were responsible for the results. One can imagine that the actions of the consumer-provider could have directly helped clients or had a positive influence on the attitude and treatment processes of the whole team. However, it is possible that the teams that hired consumer-providers were more recovery oriented and provided more effective care. The results may be a combination of these factors. Moreover, it is plausible that working according to a specific model—the ACT model—played a part in the results, as it brings harmony, enthusiasm, spirit, and intelligibility into a team. The correlation between consumer presence and overall fidelity to the ACT model was fairly high ($r=.61$). Therefore, we corrected for this and hope to have covered this possible bias.

At baseline, teams with a consumer-provider treated more severely ill clients. It may be that the clients of teams without a consumer-provider improved less because they were less sick and had less room to improve (a floor effect). It is important to note that the multilevel analysis modeled with random effects for the nested individuals and teams and controlled for the differences in baseline scores between teams. Moreover, we found an association at both follow-ups between consumer fidelity and unmet

and met needs in relation to personal recovery, whereas there was no significant difference at baseline.

Conclusions

This study supports the management decision to add a consumer-provider to an outpatient team. We found an association between consumer presence and improvements on HoNOS, met and unmet needs in relation to personal recovery, and number of homeless days. The study also showed that integrating consumer-providers in health care is a slow process.

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