Use of Intervention Strategies by Assertive Community Treatment Teams to Promote Patients' Engagement

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Objective: **This study explored the range of interventions and the use of more intrusive techniques by staff of assertive community treatment (ACT) teams to promote engagement, manage problem behaviors, and reinforce positive behaviors among patients. Individual and organizational characteristics that may be associated with these practices were identified.** ***Methods:*** **Between January and March 2006, clinicians (N=239) from 34 ACT teams participated in a one-time survey about their intervention strategies with patients, perceptions about the ACT team environment, and beliefs about persons with severe mental illness.** ***Results:*** **Significant variation existed in the types of interventions employed across teams. The less intrusive strategies, including positive inducements and verbal guidance, were the most common. Other strategies that placed limits on patients but that were still considered less intrusive—such as medication monitoring and money management—were also common. Clinicians who reported working in more demoralized climates and having negative perceptions of mental illness were more likely to endorse leveraged or intrusive interventions.** ***Conclusions:*** **The findings of this study suggest significant variation across teams in the use of intervention strategies. Both perceptions of a demoralized organizational climate and stigmatizing beliefs about mental illness were correlated with the use of more intrusive intervention strategies. Future research on the role and appropriateness of more intrusive interventions in mental health treatment and the impact of such interventions on patient outcomes is warranted. (*Psychiatric Services* 64:579–585, 2013; doi: 10.1176/appi.ps.201200151)**

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Assertive community treatment (ACT) is a team-based approach to support successful integration of persons with severe mental illnesses into the community (1). ACT teams typically focus on patients who have failed to respond to less intensive treatments and utilize low staff-to-patient ratios, frequent contacts, and "active and persistent efforts to engage clients" (2). Despite the evidence base supporting its effectiveness (1), ACT has been criticized by both clinicians and patients as overly reliant on intrusive techniques that diminish patients' autonomy (2–5).

ACT teams have been reported to use access to money and housing as leverage to encourage patients to adhere to treatment plans and to enlist patients' family and friends to join in exerting pressure (3). Some experts have suggested that "ACT is largely a euphemistic label for coercion" (4), and the question has been raised whether an ethical clinician can participate in "treatment that won't go away" (5). ACT has been described as a model that may limit patients' privacy, violate patients' confidentiality, and give priority to societal interests—for example, maintaining safety and social order—over patients' needs (5). Similar concerns echo through the literature on community mental health (6–8).

Studies examining the intrusiveness of ACT teams' interventions, however, have been few and their findings limited. Interviews and surveys of patients generally show high degrees of satisfaction with ACT, although patients sometimes complain that staff members are overly controlling or intrusive (9–12). Focus groups of patients from four ACT teams supported this conclusion, and—with rare exceptions—participants generally noted the supportive and nondirective nature of staff interventions (13).

A recent study of interactions between ACT case managers and patients found that patients' reports of a negative relationship with the provider were significantly correlated with patients' perceptions of coercion but not with the actual use of coercive interventions. This finding suggested that more global aspects of the relationship may affect patients' perceptions of the acceptability of more intrusive interventions (14). Taken as a whole, studies of ACT patients do not provide support for considering ACT an intrinsically coercive intervention, although coercive techniques may sometimes be used.

A small number of studies have examined reports by ACT team clinicians about the interventions they use and their attitudes toward them. In a focus group study, ACT staff endorsed nondirective approaches and reported that more coercive techniques were incompatible with the ACT model (13). A survey of ACT case managers who worked in Department of Veterans Affairs programs examined the use of a range of techniques that constituted "therapeutic limit setting." The techniques spanned a continuum of increasingly more intrusive approaches, including verbal encouragement, contingent support, and money management, as well as informal (threats of involuntary hospitalization) and formal (civil commitment) coercion. The findings suggested that less intrusive approaches were used more often (although absolute frequencies of use were not reported) and that greater limit setting was associated with poorer patient outcomes at six months (15,16).

Observations of 45 interactions with patients by 15 ACT staff members in Chicago suggested that coercive measures were most likely to be used with patients whose treatment was court ordered but that they constituted only a small proportion of the approaches employed (17). A related study found that ACT providers employed varying levels of pressure to promote medication adherence and that the levels employed correlated with their perception of their patients' level of adherence (18). Data from staff members of 23 ACT teams in Indiana showed wide variability in the use of four specific forms of leverage, with representative payees and intensive medication monitoring used most frequently and involuntary outpatient commitment and placement in agency-supervised housing used much less commonly (19). Indeed, there are even suggestions that ACT teams use less intrusive techniques than ordinary community mental health teams, given that ACT team members are more focused on building trusting relationships, promoting self-determination, and using a nonjudgmental, patient-centered approach (13,20). Given the level of severity of symptoms among ACT patients, ACT team members often struggle to balance patients' self-determination and behavioral change strategies.

Relatively little is known about staff or program characteristics of ACT that may be associated with using intrusive approaches. The Indiana study described above did not detect a relationship between the types of leverage examined and overall measures of fidelity to the ACT model or to pessimistic attitudes among clinicians but showed that some leveraged interventions correlated with lower levels of staff education and lower quality of basic clinical services (19). Other studies have suggested that mental health staff harbor stigmatizing attitudes toward patients; such attitudes have important implications for quality of care and recovery outcomes (21–25). The culture and climate of ACT teams also may influence how team members deliver services. Indeed, organizational climate and culture have been linked to the quality of services in the child mental health service system (26). For example, team members who believe they work in a "demoralized environment" (emotional exhaustion, depersonalization, and role conflict) may use more stringent or leveraged interventions.

Whether denoted as "coercion," "leverage," or some other term, unnecessarily intrusive interventions involving ACT patients are undesirable for several reasons—they undercut the adaptive skills that patients need to learn to make decisions for themselves, lead to lower levels of satisfaction with treatment, and, potentially, restrict patients' exercise of their rights to guide their own lives. Given the limited data on the frequency of intrusive interventions and the factors that may correlate with their use, we undertook a cross-sectional survey of ACT staff members on 34 teams in New York State. Our goals were to further explore the range of interventions and the use of more intrusive techniques by ACT team staff and to identify individual and organizational characteristics that may be associated with these practices.

Methods

Sample

Staff members from a sample of ACT teams in New York City and neighboring areas were invited to participate in a self-administered survey regarding individual staff members' use of intervention strategies, perceptions of their organizations, and beliefs about persons with mental illnesses. Study enrollment occurred between January and March 2006. Teams were paid $250 for their members' participation. All 40 ACT teams in New York City and the downstate region were approached, and 34 agreed to participate. A majority (71%) of participating teams were located in New York City. All staff members of participating ACT teams (N=280) were invited to take part in the survey.

The final study group consisted of 239 ACT team staff members, an 85% participation rate. An average of seven ACT staff members per team participated. Oral consent was obtained from participants after an oral description was offered and a handout about the study was provided to each team member. Approval was obtained from the Central Office Institutional Review Board of the New York State Office of Mental Health.

Dependent measures

Dependent variables aimed at assessing the intrusiveness of therapeutic strategies used by ACT staff members were derived from the Limit-Setting and Engagement Strategies Scale, a 46-item scale with responses from 1 (never) to 4 (often). This scale was adapted from Neale and Rosenheck's therapeutic limit-setting scale (15,16), with additional items added to capture the full range of strategies used by ACT team staff to alter patients' behavior. The additional items include use of inducements, reminders, and assertive treatment strategies not included in the limit-setting scale.

We used principal-components factor analysis with varimax rotation to identify distinct strategies. On the basis of eigenvalues >1 and inspection of the scree plot, factor analysis of the ratings by participants in this study yielded seven discrete factors. In order of intrusiveness, the factors are positive inducements (α=.80), verbal guidance (α=.85), medication monitoring (α=.65), money management (α=.78), conditional involvement (α=.74), use of hospitalization (α=.72), and report to authorities (α=.61).

Organizational and individual variables

Demoralized organizational climate, which was hypothesized to correlate with greater use of more intrusive strategies, was measured by three subscales from Glisson and James's Organizational Climate Survey (OCS), a 115-item scale designed to assess employees' appraisal of the impact of their work environment on their own well-being and on the success of their work (27). The three subscales measure emotional exhaustion, depersonalization, and role conflict and contain 19 items. The standardized Cronbach's alpha for this measure is .91.

Stigmatizing beliefs of ACT staff members, another hypothesized correlate of use of intrusive approaches, were assessed by the Beliefs About Mental Illness Scale (28), a 12-item instrument. Items are rated on a 4-point Likert scale, from 1, strongly agree, to 4, strongly disagree. The standardized Cronbach's alpha for this measure is .81.

The analyses also included demographic characteristics of staff members, namely gender, race-ethnicity, age, education, staff role, and duration of tenure on the ACT team.

Statistical analyses

Because of the nested structure of the data, the data analysis needed to take into account the possibility that intervention practices were partly a function of team characteristics. Thus responses by staff members on a given team may not have been entirely independent of one another. To assess the degree of nonindependence, we first used one-way, random-effects analysis of variance models; intraclass correlation coefficients were calculated for each subscale to estimate the proportion of variance in the intervention strategies accounted for by teams. To account for the nested structure and nonindependence of the responses by individual staff members within teams, we used hierarchical linear modeling—also known as multilevel linear models—to estimate the effects of demoralized climate, stigmatizing beliefs, and demographic characteristics on intervention strategies.

Results

Characteristics of respondents

The mean±SD age of participants was 42±11 years, and a majority were female (Table 1). Most participants identified themselves as non-Hispanic Caucasian (46%) or non-Hispanic African American (32%). A majority of staff members had a graduate degree, and respondents represented a range of specialty roles on the ACT team. Respondents reported working on their teams for 27±28 months.

Use of intervention practices

ACT staff reported that, on average, less intrusive strategies for engaging patients were used more often than intrusive approaches (Table 2). Positive inducements (2.94±.58) and verbal guidance (2.94±.55) were used the most often, and hospitalization (2.43±.54) and report to authorities (2.02±.59) were used less often. The responses of staff members from each team showed significant variation in the use of intervention strategies at the organizational level. Significant intraclass correlation coefficients ($p<.05$) were found for all intervention strategies: positive inducements (.12), verbal guidance (.17), medication monitoring (.23), money management (.24), conditional involvement (.11), use of hospitalization (.08), and report to authorities (.17).

Table 1

Characteristics of 239 ACT staff[a]

Characteristic	N	%
Age (M±SD)	42±11	
Female	153	57
Race-ethnicity		
Caucasian, non-Hispanic	101	46
African American, non-Hispanic	72	32
Hispanic	25	11
Other, non-Hispanic	24	11
Graduate degree	119	53
Staff role		
Team leader	30	14
Psychiatrist	15	7
Nurse	36	17
Substance abuse specialist	26	12
Vocational specialist	24	11
Family specialist	22	11
Peer specialist	10	5
General staff	42	20
Tenure on team (M±SD months)	27±28	

[a] ACT, assertive community treatment

Correlates of intervention practices

Table 3 presents the results of multilevel linear models estimating the association between individual and organizational variables and intervention practices by staff. The results suggested both individual and organizational correlates of more intrusive intervention strategies. ACT staff who reported a demoralized organizational climate were more likely to use more intrusive approaches, including money management (b=.16, SE=.07, $p<.05$), hospitalization (b=.15, SE=.06, $p<.05$), and report to authorities (b=.19, SE=.07, $p<.01$). There was a strong positive association between stigmatizing beliefs and conditional involvement with patients (b=.35, SE=.09, $p<.001$) and report to authorities (b=.26, SE=.09, $p<.01$).

Few individual staff characteristics were associated with intervention strategies. Staff members with a graduate education were more likely to hospitalize patients (b=.21, SE=.09, $p<.05$),

Table 2

Use of therapeutic interventions by ACT staff members[a]

Intervention	M	SD	Cronbach's α
Positive inducements	2.94	.58	.80
Seek to engage patients who are refusing services (by calling on phone)	3.08	.86	
Seek to engage patients who are refusing services (by going to their home)	2.72	.93	
Seek to engage patients who are refusing services (by offering food, etc.)	2.21	.98	
Buy patients lunch, cigarettes to help build relationship	3.31	.93	
Buy patients lunch, cigarettes to reward them for making progress toward goals	2.06	.97	
Buy patients lunch, cigarettes as part of agreement with patients	3.70	.64	
Serve food during group activities to improve attendance	3.72	.59	
Provide metrocard or free pass for public transport	2.80	1.04	
Verbal guidance	2.94	.55	.85
Point out harmful behaviors	3.53	.60	
Point out harmful consequences	3.69	.51	
Remind patients to do certain things	3.47	.61	
Remind patients not to do certain things	3.05	.80	
Remind patients may relapse or be hospitalized	3.43	.74	
Remind patients may lose housing	2.97	.95	
Remind patients may lose or have difficulty regaining child custody	2.88	1.01	
Remind patients may need guardian	1.96	.95	
Remind patients may meet assisted outpatient treatment (AOT) criteria	2.14	1.02	
Remind patients of risk of incarceration	2.29	.99	
Medication monitoring	2.72	.83	.65
Watch patients take medications if they have trouble with medication adherence	3.00	.94	
Administer medications by injection for patients who have trouble with medication adherence	2.67	1.18	
Include medication injections in court-ordered treatment plan	2.48	1.10	
Money management	2.40	.60	.78
Believe patients need someone to control finances	2.80	.64	
Initiate procedures to have representative payee appointed	2.54	.88	
Tell patients they need someone to control spending	2.28	.84	
Suggest patients should have representative payee	2.68	.69	
Request representative payee dispense funds after or during treatment activity	1.97	1.02	
Ask representative payee what money will be used for	2.46	1.16	
If ACT team is representative payee, dispense funds only when patients have spending plan	2.00	1.05	
Report to authorities	2.02	.59	.61
Actually report patients' behavior to authorities	2.13	.84	
Consider reporting patients' behavior to authorities	2.20	.78	
Institute AOT proceedings	2.02	.83	
Initiate procedures to have guardian appointed	1.64	.78	
Use of hospitalization	2.43	.54	.72
Encourage patients to be admitted to hospital	2.62	.67	
Take patients to hospital	2.76	.70	
Request hospital commitment against patients' will	2.16	.79	
Commit patients to hospital against will	2.18	.77	
Conditional involvement	1.82	.55	.74
Tell patients, "I might have to stop working because of behavior."	1.41	.63	
Delay helping patients because of behavior, threat, or harm	1.78	.82	
Refuse to help patients because of behavior, threat, or harm	1.57	.74	
Tell patients, "I will help when you do that."	1.97	.83	
Impose conditions on patients who break rules	2.38	.85	

[a] ACT, assertive community treatment. Use of interventions was rated on a 4-point scale, from 1, never, to 4, often.

and those who identified as Hispanic were less likely than their white counterparts to use conditional involvement as an intervention strategy (b=–.34, SE=.13, p<.01). Use of positive inducements was more strongly endorsed by team leaders (b=.51, SE=.15, p<.001) and by specialty staff (b=.27, SE=.11, p<.05) than by general staff. Team leaders were also more likely than general staff to report the use of hospitalization (b=.32, SE=.13, p<.05). The likelihood among general ACT staff of using medication management was associated with being a psychiatrist (b=.63, SE=.24, p<.01) and a nurse (b=.69, SE=.17, p<.001). In addition, nurses were more likely than other staff to use verbal guidance (b=.25, SE=.12, p<.05).

Discussion

In this study of 239 clinicians from 34 ACT teams, we explored a range of interventions used by respondents and the individual and organizational characteristics associated with these practices. Consistent with previous research (15,16), we considered a continuum of interventions, ranging from less intrusive—for example, positive

Table 3

Estimated effects of characteristics of ACT staff on use of intervention strategies[a]

	Positive inducements		Verbal guidance		Medication monitoring		Money management		Conditional involvement		Use of hospitalization		Report to authorities	
Characteristic	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Stigmatizing beliefs	.14	.10	.17	.09	–.02	.13	.14	.10	.35***	.09	.04	.09	.26**	.09
Demoralized climate	.10	.07	.12	.06	.12	.09	.16*	.07	.09	.06	.15*	.06	.19**	.07
Age	–.01	.00	–.00	.00	–.00	.01	–.00	.00	–.00	.00	–.00	.00	–.00	.00
Female	.17	.09	.01	.08	.11	.12	.09	.09	.06	.08	–.12	.08	–.04	.09
Graduate degree[b]	–.10	.10	.13	.09	.10	.12	–.05	.10	.11	.09	.21*	.09	.07	.09
Race-ethnicity[c]														
African American, non-Hispanic	.05	.10	.13	.09	–.25	.14	–.04	.11	–.08	.09	.01	.09	.10	.10
Hispanic	.07	.15	.08	.13	–.02	.18	.03	.15	–.34**	.13	–.18	.13	–.08	.14
Other, non-Hispanic	–.09	.16	.06	.14	.01	.20	–.07	.16	.02	.14	.05	.14	.11	.15
Staff role[d]														
Team leader	.51***	.15	.07	.13	.12	.18	.04	.14	.14	.13	.32*	.13	.10	.14
Psychiatrist	.25	.19	.23	.17	.63**	.24	.16	.19	.02	.17	.28	.17	.04	.18
Nurse	.18	.14	.25*	.12	.69***	.17	–.08	.14	–.08	.12	.16	.12	.001	.10
Specialty[e]	.27*	.11	.15	.10	–.09	.14	.07	.11	–.01	.10	.08	.10	.04	.10
Tenure on ACT team	.01	.02	.01	.02	–.001	.03	.002	.02	.01	.02	.03	.02	.001	.02

[a] ACT, assertive community treatment

[b] The reference group was staff with bachelor's and associate's degrees and some college and high school.

[c] The reference group was Caucasian, non-Hispanic staff.

[d] The reference group was general staff.

[e] Included family, employment, substance abuse, and peer specialists

*p<.05, **p<.01, ***p<.001

inducements—to more intrusive—for example, hospitalization and report to authorities. Even though we found variation across teams in the types of interventions used, less intrusive strategies were the most commonly endorsed by the study sample. Positive inducements and verbal guidance were the two most frequently endorsed interventions. Nevertheless, limit-setting strategies were not uncommon, which suggests the need for future research to assess the contexts in which these strategies are implemented and the circumstances in which they may be beneficial or harmful for ACT patients during their recovery.

Consistent with previous research (26,27), we found that ACT clinicians from more demoralized work environments were more likely to use intrusive intervention strategies. The culture and climate of an organization represent the beliefs, values, and meanings shared by its staff members. Clinicians who are more emotionally stressed, overly burdened, or dissatisfied at work may be more inclined to use intrusive interventions to promote treatment adherence. However, the relationship between the organizational climate and intervention strategies is complex and likely bidirectional. Teams working with a population with complex, challenging needs may be more likely to identify a demoralized climate.

Not surprisingly, stigma had a large impact on the types of interventions used by clinicians. Negative perceptions about mental illness are not limited to the general public (29); studies have shown that many mental health providers also endorse stigmatizing beliefs about mental illness (21–25). Clinicians in our study who held more stigmatizing beliefs about people with mental illnesses were more likely to use conditional involvement and to report patients to authorities. These results suggest that stigma continues to be a major challenge and that even mental health staff who provide care and support to patients share these views. Although the link between intrusive interventions and patient outcomes is not well understood, the negative impact of stigma on patients is well established (30,31).

Several limitations of this study are worth noting. First, the relationship between intrusive strategies and both demoralization and attitudes toward mental illness is associational, and the direction of the relationship is unclear. Although demoralization and negative attitudes might lead to greater use of intrusive strategies, it could also be that teams that frequently rely on such strategies are more likely to become demoralized and to harbor negative attitudes toward patients or may feel demoralized because of their patients' challenging and complex needs. In addition, without the benefit of random assignment, our models were unable to account for other variables—for example, level of severity of patients' symptoms—that may explain the relationship between organizational climate and staff attitudes and the use of intrusive strategies.

Second, the findings from this study pertain to members of ACT teams whose patients are among the most severely ill and the most difficult to treat in usual mental health settings; therefore, the results may not generalize to other treatment systems or populations. We also modified the limit-setting scale to include intervention strategies that were not addressed by the original version. Although our factor analysis produced seven factors with moderate to high Cronbach's alpha reliability estimates, formal psychometric testing of our instrument to further establish its reliability and validity as a standardized scale is warranted.

In addition, because of time and resource limitations, we used three subscales from the OCS rather than the full OCS to assess demoralized climate. However, these subscales have independently established psychometrics, including acceptable internal reliability and demonstrable construct validity (32). Further, we did not have information about the context in which the intervention strategies were delivered and thus were unable to determine if intrusive interventions were employed unnecessarily. Any of the intrusive interventions examined—for example, establishing a representative payee for an ACT patient—may have represented an intervention of last resort or an option preferred by an individual staff member or a team. In addition, we lacked information on how patients perceived this continuum of interventions, which may affect the impact of the interventions on therapeutic relationships. Indeed studies have revealed little evidence that patients perceive ACT to be overtly coercive (13,33).

Finally, the limit-setting and engagement measures were based on clinicians' self-reports of their own intervention practices and were subject to errors and biases associated with that data source.

Conclusions

This study extends what we know about the use of intrusive interventions by ACT clinicians. The findings indicated that teams significantly vary in their use of intrusive intervention strategies and that both perceptions of a demoralized organizational climate and stigmatizing beliefs about mental illness strongly predict the use of more intrusive intervention strategies. The results also suggested that ACT teams, as instruments of care, are not intrinsically coercive but rather that a variety of variables is associated with the degree of reliance on intrusive interventions. Given the growing emphasis on implementing services that promote patients' empowerment and self-determination, there is a need for research on the role and appropriateness of more intrusive interventions in mental health treatment and their impact on patients' outcomes.

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