

Impact of Person-Centered Planning and Collaborative Documentation on Treatment Adherence

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Objective: Tailoring service planning to clients' personal life goals, or person-centered planning, has emerged as a recovery-oriented practice. This study examined the impact of person-centered planning and collaborative documentation on service engagement and medication adherence within community mental health centers (CMHCs). **Methods:** Ten CMHCs were assigned randomly to receive training in person-centered planning and collaborative documentation or provide usual treatment. Medication adherence and service engagement were measured for 11 months (May 2009–March 2010) for 367 clients. Models compared changes in medication adherence and service engagement among clients of CMHCs in the control and experimental conditions. **Results:** Medication adherence increased significantly at CMHCs in the experimental condition ($B=.022$, $p\leq.01$) but showed no significant change at

CMHCs in the control condition ($B=.004$, $p=.25$). Appointment no-shows at CMHCs in the experimental condition were reduced (odds ratio $=.74$, $p=.001$). **Conclusions:** Person-centered planning and collaborative documentation were associated with greater engagement in services and higher rates of medication adherence. (*Psychiatric Services* 64:76–79, 2013; doi: 10.1176/appi.ps.201100489)

The lack of engagement with mental health services among people with severe mental illnesses continues to be a challenge (1). Several factors contribute to disengagement among person with mental illness, including a lack of trust in the mental health system, poor alliances with providers, a perception that providers are not listening to them, and inadequate opportunities to make decisions and collaborate in treatment (2,3). Person-centered care planning, a recovery-oriented practice, is designed to promote service engagement by increasing client self-determination during treatment.

Person-centered planning is defined as “a highly individual comprehensive approach to assessment and services” (4). Rather than focusing only on symptom relief, person-centered planning's unifying vision is for providers to collaborate with clients to develop customized plans

that identify life goals and potential barriers. Although person-centered planning follows the usual trajectory of service planning from assessment to evaluation, it is informed by the principles of making continuous use of strengths-based assessment strategies, of adhering to person-centered principles in the process of building person-centered plans, of recognizing the range of interventions and contributors (family and natural supports) in the planning and care process, of valuing community inclusion as a commonly identified and desired outcome, of supporting the dignity of risk taking and the right to failure, and of demonstrating a commitment to both outcomes and process evaluation (5). Practices that support person-centered planning are motivational interviewing based on the stages of change framework, use of Wellness Recovery Action Plans, and a commitment to building a strong therapeutic alliance.

To expand person-centered planning's emphasis on collaboration and transparency, agencies are now also utilizing a collaborative approach to documentation. Collaborative documentation—also known as concurrent documentation—encourages providers and clients to complete assessment, service planning, and ongoing progress notes during face-to-face sessions. As part of person-centered planning, collaborative documentation works to the mutual benefit of agencies and clients by ensuring that plans genuinely reflect client values

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and preferences and that the documentation is completed in a timely manner.

Although person-centered planning is beginning to be implemented as part of routine mental health care, there is still limited research on its effectiveness. This study examined proximal outcomes to ascertain whether person-centered care planning combined with collaborative documentation improved service engagement and medication adherence among clients at ten geographically diverse community mental health centers (CMHCs).

Methods

The study was a randomized controlled trial of person-centered care planning with collaborative documentation among clients receiving services at ten geographically diverse CMHCs. The CMHCs were selected on the basis of their participation in the National Council on Community Behavioral Healthcare's Enhanced Access and Retention Quality Improvement Initiative. Five CMHCs were randomly assigned to the experimental condition, which provided training in person-centered planning and collaborative documentation to agency clinicians. The five CMHCs in the control condition provided treatment as usual. A total of 84 providers serving study participants at the experimental CMHCs were selected to be trained in person-centered planning with collaborative documentation. Providers were from all program areas and included frontline clinicians and supervisors with a range of training levels. The study period was 11 months (May 2009 to March 2010). The University of Pennsylvania Institutional Review Board approved the study protocol.

The ten CMHCs served an average of 928 ± 470 clients per year. At the client level, to be eligible for the study, participants were required to be aged 18 or older, have had one or more psychiatric hospitalizations or two or more psychiatric emergency room visits in the past year, have a *DSM-IV* axis I diagnosis, and to meet at least two functional criteria of severe mental illness (6). Altogether, 177 clients at the CMHCs in the experimental condition and 190 clients at the CMHCs in the control condition participated.

Providers at the five CMHCs in the experimental condition received training via videoconferencing in person-centered planning followed by further coaching and monitoring during monthly meetings. Person-centered planning provides a blueprint to identify life goals that can be translated into action steps to inform the collaboration between the provider and the client. The process consists of identifying life goals, assessing behavioral health problems, developing service plans to integrate life goals and behavioral health goals, and keeping a focus on life goals during therapeutic sessions. Providers are also trained to focus on client engagement, following up at the next appointment to discuss missed appointments and problem-solve how to avoid them. Collaborative documentation consists of reorienting assessment, planning, and evaluation documentation to identify and integrate personal goals with more traditional mental health goals and completing all documentation during face-to-face sessions with the client.

CMHCs in the control condition were involved in activities that were part of a broader initiative to improve engagement, which included centralized scheduling and management of no-shows, but did not receive training in person-centered planning and collaborative documentation.

The study analyzed data from three sources. First, all providers in the trial reported monthly on client-level outcomes during the 11-month study period. Second, each CMHC provided basic demographic and clinical information about each client at baseline and summary data about appointment no-shows. Finally, public use data from the Substance Abuse and Mental Health Services Administration (SAMHSA) were used to characterize each CMHC.

The provider who was best able to determine a client's medication adherence rated adherence (yes or no) on a monthly basis for 11 months. Staff at each CMHC reviewed the center's clinical records to provide client age and diagnosis at baseline. They also calculated attendance of scheduled appointments (measured at the CMHC level).

The CMHC characteristics were measured by the 2008 National Survey of Mental Health Treatment Facilities conducted by SAMHSA. The survey asked mental health treatment facilities if they provided substance abuse services, used computerized treatment planning, and followed up on client outcomes after discharge. Provision of comprehensive services was measured by an item listing 14 services, such as case management, assertive community treatment, and vocational rehabilitation. Agencies that provided seven or more of these services were designated as providing comprehensive services. Provision of recovery-oriented services was measured by an item listing nine recovery-oriented services, such as supported employment, supported housing, and family psychoeducation. Agencies that provided four or more of these services were designated as providing recovery-oriented services.

The first aim was to compare changes in the overall rate of clinician-reported medication adherence between clients in the experimental CMHCs and clients in the CMHCs in the control group. The overall monthly rate of adherence was calculated separately for all clients in the experimental and control groups, and linear models were used to calculate the impact of month (independent variable) on adherence (dependent variable) separately by treatment group. The beta coefficient represents the change per month in rate of adherence. A final model with an interaction between time and intervention was created to test whether the rates of change differed between CMHCs in the experimental and the control groups.

For the second aim, client-level analyses were conducted separately for CMHCs in the experimental and control groups to examine whether the odds of medication adherence changed over time. Given that the data included a monthly binary adherence measure for each client, random-effects logistic models were used to examine adherence (dependent variable) as a function of month (independent variable), including random effects for CMHCs and clients nested within CMHCs. The effect of time across the intervention

Table 1

Odds associated with adherence with medication over time among clients of CMHCs in experimental and control groups^a

Variable	Clients (N=367)		Experimental	Control	p
	N	%			
Condition					
Experimental	177	48	1.25		
Control	190	52		1.01	<.01
Service user					
Diagnosis					
Schizophrenia	153	42	1.33	1.07	<.01
Bipolar disorder	88	24	1.22	.96	<.01
Depression	86	23	1.27	1.06	.09
Other	40	11	.97	1.10	.58
Age					
<40	94	26	1.15	1.09	.64
40–60	215	58	1.27	.96	<.01
>60	58	16	1.33	1.14	.14
CMHC ^b					
Substance abuse services					
Yes	188	57	1.15	1.05	.21
No	140	43	1.32	1.01	<.01
Comprehensive services					
Yes	114	35	1.30	1.20	.42
No	214	65	1.22	.97	<.01
Recovery-oriented practices					
Yes	151	46	1.30	1.07	.01
No	177	54	1.21	.98	.01
Computerized treatment planning					
Yes	184	44	1.32	1.07	<.01
No	144	56	1.15	.98	.04
Follow-up of service-user outcomes					
Yes	105	32	1.29	.98	.08
No	223	68	1.22	1.07	<.01

^a CMHC, community mental health center. CMHCs in the experimental group (N=5) received training in person-centered planning and collaborative documentation, and CMHCs in the control group (N=5) provided treatment as usual. Medication adherence was measured monthly for 11 months.

^b Data were available for 328 clients.

groups was compared by including an intervention-by-time interaction term in a model containing both experimental and control sites. The results of the models were stratified by relevant client and CMHC characteristics, and a three-way interaction between the characteristic, the intervention, and time was calculated to determine whether any of these key factors moderated medication adherence.

Finally, logistic regression models, including a random effect for site, were run to calculate the effect of the intervention on the odds of an appointment no-show. The models used data received from each CMHC on the total number of appointment no-shows and the total number of appointments.

Results

The intervention had a positive impact on medication adherence over time. Medication adherence at CMHCs in the experimental condition increased by 2% per month over the 11-month period ($B=.022$, $p\leq.01$). The control condition showed no significant change in rate of medication adherence ($B=.004$, $p=.25$), and by the end of the study, the rate of medication adherence for the control condition was lower than for the experimental condition, despite having been higher at the start of the study. The rate of change in medication adherence for the experimental and the control groups differed significantly ($p\leq.01$). The intervention also reduced appointment no-shows—average

no-show rates were 20% at CMHCs in the experimental group and 27% at CMHCs in the control group (odds ratio [OR]=.74, confidence interval [CI]=.66–.83, $p<.01$).

In the client-level analyses, the odds of medication adherence over 11 months increased by 25% among clients in the experimental condition but by only 1% among clients in the control condition ($p\leq.01$) (Table 1). An intervention effect generally was seen across client-level characteristics. Medication adherence over the 11-month study among clients with schizophrenia and bipolar disorders was significantly more improved at CMHCs in the experimental group than at CMHCs in the control group (schizophrenia, OR=1.33 and 1.07, respectively, $p<.01$; bipolar disorder, OR=1.22 and .96, respectively, $p<.01$). Clients of CMHCs in the experimental condition between the ages of 40 and 60 experienced similar benefits. However, the intervention was not associated with improved medication adherence among people with depression or other disorders or people below age 40 or above age 60, although the sample sizes were smaller for these groups. None of the client-level variables moderated the relationship between the intervention and the outcome.

The intervention was also seen generally to have an effect across CMHC characteristics (Table 1). Clients of CMHCs in the intervention condition had more pronounced improvement in medication adherence over the 11-month study period than clients of CMHCs in the control condition at both clinics that provided recovery-oriented services (OR=1.30 and 1.07, respectively, $p=.01$) and clinics that did not (OR=1.21 and .98, respectively, $p=.01$).

Similar findings were identified for clients of CMHCs that did and did not use computerized treatment planning. However, the intervention effect was not seen among clients receiving care in CMHCs that provide substance abuse services, comprehensive services, or—despite a trend toward a significant difference ($p=.08$)—follow-up of service-user outcomes. The intervention effect was seen among clients of

CMHCs that did not provide these services. None of the CMHC characteristics moderated the relationship between the intervention and the outcome.

Discussion

Overall, the study found that person-centered planning and collaborative documentation were associated with greater engagement in services (a decrease in no-shows) and higher rates of medication adherence. Therefore, the study findings supported the theory that if clients have greater control over their treatment and services are genuinely oriented toward their individual goals, clients will be more engaged with services and more adherent with medication (7).

There was some variation in the effectiveness of person-centered planning in terms of CMHC domains. Whereas the intervention was effective at CMHCs that provided recovery-oriented services and used computerized treatment planning, it had no significant effect at CMHCs that provided comprehensive services, substance abuse services, and follow-up of client outcomes. The reason for these differences is not clear, although the intervention may have less impact at CMHCs that already provide higher-quality services.

The study tested person-centered planning across diverse CMHCs in a range of program areas. However, although there was randomization of the ten centers, the overall group may have been biased in some way. Given that they volunteered to participate in the National Council's initiative, they may have been more receptive to innovation. Because the intervention combined person-centered planning (which included addressing engagement barriers) and collaborative

documentation, the study was not able to parse the individual effect of each component.

Although a majority of the providers reported fidelity to the intervention more than 90% of the time, it is still not clear that the positive effect was due to the implementation of person-centered planning or to some other positive effect of the training. Medication adherence was measured by clinician report, which may not always have been reliable. However, although not reported, client report of medication adherence was included in the study measures, and the analyses of those data corroborated the results of the clinician report. Study outcomes were measured for only 11 months and focused on service engagement rather than on whether clients made progress toward their personal life goals.

Conclusions

Self-determination within mental health care has become an ethical imperative (8). The challenge for mental health agencies is to reorient their care systems to a person-centered model while negotiating an ever more demanding environment characterized by greater accountability and reduced funding. This study demonstrated that training in person-centered planning and collaborative documentation can increase engagement in services and holds the promise of a genuinely collaborative service-planning process that makes documentation more meaningful to the client and more feasible and efficient for the clinician. More rigorous testing of person-centered planning on a broader array of outcomes and an exploration of how the intervention affects provider-client interactions have considerable potential to

contribute to the evidence base for recovery-oriented practices.

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