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Case Report

The Effects of a Statewide Training Program to Change Treatment Practices for Individuals with Co-Occurring Mental Health and Substance Abuse Disorders

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Abstract

Objective: This paper describes the effects of a statewide training program on perceived changes in attitude and skills of behavioral health staff in the treatment of individuals with co-occurring mental health and substance abuse disorders (COD).

Methods: The hypothesis was that increased levels of consultation and training would result in greater recognition and treatment of people with COD. The analysis of the effectiveness in enhancing clinical competence was evaluated using a workforce survey instrument. A logistic regression model was used to determine the results of the training effort as it related to changes in practice by staff.

Results: Four hundred and eighty seven staff members completed the survey. Those with the greatest amount of training were significantly more likely to report changes in their COD treatment practices. **Conclusions:** The comprehensive practice change model implemented across the state provider network resulted in promising outcomes with respect to staff changes leading to greater recognition of and competence in treating people with COD. Future research is needed to determine the extent that perceived skills from this integrated treatment practice resulted in actual clinical benefits to COD clients.

INTRODUCTION

In 2007, an estimated 5.4 million adults met the criteria for both severe mental illness and substance dependence or abuse disorders [1]. Despite the high prevalence rates of "co-occurring" mental health and substance disorders (COD), the administration, funding and treatment of mental health and substance abuse treatment has traditionally been managed by two distinct service systems. Additionally, clinicians treating clients with COD in each system have had different professional training and philosophies. The separateness of the service delivery systems and the different skills and competencies of providers are purported to result in ineffective treatment outcomes for those with COD, who make up approximately 50% of the systems. Providing a workforce with integrated skills in both disorders is considered a necessary step in order to meet the treatment needs of these consumers [2,3].

In an effort to improve the system of care for COD, the Substance Abuse and Mental Health Service Administration (SAMHSA) awarded 19 Co-occurring State Incentive Grants (COSIG) to states between 2004 and 2007 [4] to enhance capacity for treating individuals with COD [5]. In 2007, the Delaware Department of Health and Social Services (DHSS) received a COSIG grant to provide integrated COD treatment through a system and practice-change intervention. The State, through its Department of Substance Abuse and Mental Health Services

(DSAMH), implemented a focused training program involving education and supervision for agency staff that received funds from DSAMH, to enhance the skills of clinicians in treating patients with COD in both the mental health and substance abuse treatment systems. This paper provides the results of this large system training effort on staff practice change.

METHODS

Conceptual basis of practice change

Changing behaviour or practice patterns of clinicians is a challenging process. Previous attempts to identify theoretical models of behavior change have generated numerous contending theories. There are motivational theories to explain behavior change in people who have not yet established an intention to act, action theories for those who are motivated to change and organizational theories to explain change at a social and systems level [6]. Theories of change involving adult-learning approaches or strategies are based on people experiencing a problem with their current practice before they are motivated to change; behavioral theories hypothesize that change results from external influence such as outside feedback and reinforcement and social influence theories require social norms and leadership from management for performance change, involving group interactive educational sessions, consensus and opinion leaders. Finally, organizational theory attributes lack of change to system failure suggesting the need to reduce structural barriers and improve management processes to promote better performance. Substantial evidence suggests that practice change generally requires comprehensive approaches at different levels tailored to specific settings and target groups [7].

The combined implementation strategies of brief training and on-going consultation for community clinicians are increasingly being viewed as the most effective way of implementing positive change as it relates to practice. Findings from the Missouri COSIG project [8] showed that increased capacity to treat COD was associated with a combination of improvements in client assessment strategies and staff training for COD [9]. The District of Columbia Department of Mental Health found that their project, which only involved screening to identify COD, resulted in a COD treatment plan of only 23% of those identified as positive and merely 13% had any intervention noted [10]. The lack of treatment or follow-up, despite identification of the problem, suggests the importance of clinicians' knowledge, skill and ability to treat COD disorders once they are revealed.

Practice change intervention

Based on behavioral change theory and empirical evidence on using combined implementation strategies of brief training and on-going consultation for prompting change, the State of Delaware provided a host of multiple training opportunities on COD issues and practices consisting of workshops and individual and group consultation and supervision to staff at contracted agencies between 2008 and 2011, The training was done by a psychiatrist and psychologist and a two-day workshop for knowledge and skill development, led by staff from the Network for the Improvement of Addiction Treatment (NIATx) training team [11]. There were 43 workshops for clinical and program staff in State contracted agencies; 152 half day consultations to staff by a psychiatric consultant hired through COSIG grant funds to implement the practice change; 24 full days of clinical supervision at contracted agencies by a clinical psychologist and 12 COD related workshops at state sponsored summer institutes.

The major component of the practice change intervention involved ongoing didactic and experiential training to staff and clinical supervisors by a psychiatric consultant with an extensive history of providing training on co-occurring disorders. The training involved an initial day long orientation workshop for a variety of provider agencies in the State. Following this presentation, consultations were provided approximately three days each month over the course of the intervention period. DSAMH program staff arranged the trainings at various locations state-wide to assure accessibility of all staff to the trainings. The training/consultation model was based on ASAM criteria for person centered treatment planning (ASAM resource Guide www.asamcriteria.com) and was made available to clinicians from all DSAMH operated and funded substance abuse and mental health treatment programs, and to clinicians from other stakeholder agencies.

Consultations included didactic presentations as well as "live" consumer interviews, motivational interviewing, role playing and/or case presentations [12,13]. In addition, day long trainings were provided to physicians, nurse practitioners, psychologists and residents at the Delaware Psychiatric Center (State Hospital). Training topics included clinical assessment and treatment, motivational interviewing, cultural competence in COD services, improving integration, in addition to a host of other topics. Participants were expected to attend a series of six trainings where they would receive guidance from the consultant on successes, problems and obstacles. Training/consultative sessions were limited to 15 participants. Participants from a variety of agencies, both Alcohol and Drug and Mental Health programs, were encouraged to participate together in agency sessions to help clinicians build a network of contacts in other agencies and become aware of different philosophies regarding COD treatment. This "cross training" of more than one discipline together was based on recommendations of a consensus panel of professionals in both fields [14]. To enhance the consulting model, additional training was offered to supervisory staff by a clinical psychologist hired by DSAMH to support the effort.

As a supplement to the consultation/supervision practice intervention efforts, DSAMH engaged the Network for the Improvement of Addiction Treatment (NIATx) to provide a Change Leader Academy consisting of a two-day, on-site workshop for knowledge and skill development, led by a NIATx training team [11]. The participating agencies were comprised of State funded treatment programs and other behavioral health agencies throughout the State. Agency directors chose clinical supervisors at each agency to be change leaders. Goals were set by each agency with respect to enhancing COD identification and treatment capabilities, based on the needs of the organization. Following the initial leadership workshop, participants had access to phone and e-mail support from NIATx as they worked on their change projects in their own agencies. The Change Leaders participated in three, half-day meetings annually with the

psychiatric consultant directing the practice change intervention to measure their progress in meeting their goals, identifying the barriers they faced and determining how to address obstacles. A written feedback process was initiated after each consultation session where the consultant provided information to the agency and clinicians on their progress.

The combination of consultation and supervision, use of change leaders throughout the system to provide support and feedback, as well as serve as opinion leaders at the agency level, were the basic strategies associated with the adult learning, behavioral and social theories of change approaches.

Survey development

A workforce survey was used to determine the effectiveness of the practice change on staff providing treatment to clients in Delaware funded behavioral health agencies. A staff survey measuring attitudes and behaviors of agency staff to change to a system that integrated mental and substance abuse treatment was developed by the trainer, to guide the learning process. Using the answers to that assessment, investigators developed a series of questions that reflected staff's perception of agency and their own personal attitudes and barriers toward providing co-occurring services in their work setting. Investigators added questions to ascertain the effectiveness of the training and consultation they had received on their treatment of individuals with co-occurring disorders.

The questions were then refined and modified further using the following procedures: three provider directors at agencies receiving training provided input on which questions they thought would be helpful in understanding the level of their staffs' COD-related attitudes and knowledge. The survey was then given to three treatment staff members to determine ease of response and clarity of questions and further modified based on their feedback.

The final survey questions assessed demographic characteristics; skill level of respondents with respect to COD certification at the time of the interview; the amount and type of training/consultation staff engaged in; the year they received the intervention; agency characteristics; barriers to providing integrated treatment and perceived change in their practice.

Data collection

The surveys were distributed at the annual DSAMH Summer Institute in 2009, 2010 and 2011 at registration. The Institute is a three day State sponsored event attended primarily by clinicians as well as supervisors/administrators that provide services to DSAMH clients. The institute consists of workshop sessions on a variety of behavioral health topics [15]. Investigators worked with the State's Director of Community Planning, Program Development and Training to include the survey in participants' packets of information. Participants were given time during the plenary lunch session to answer the survey which was then collected by Institute staff and later sent to investigators for analysis. Three annual waves of respondents answered questions on the amount of training they had received as a result of the consultation model intervention. The survey was both voluntary and anonymous. IRB approval was obtained from the University of Pennsylvania.

Analysis

Our analysis is based on a dose response design which is used frequently in the educational and the pharmaceutical literature. In these types of studies, the effectiveness of an intervention is associated with the intensity of the dose or length of treatment, which is our main independent [16-19].

In this case, we are predicting changes in perceived treatment as a function of the number of training sessions, adjusted for demographic controls (age, race, length of work history) and agency characteristics that may have influenced attitudes and behavior. A multivariate logistic regression model was used to determine how staff perception of their practice skills changed with regard to COD treatment. Training intensity was operationalised as the total number of training/consultation sessions attended. Change in treatment was based on the answer to the survey question asking the extent of change in their COD treatment that was the result of their COD training(s) and/or consultations.

The variable was dichotomous and operationalised as 0 if there was no or minimal change and 1 if there was moderate or great change.

RESULTS

Of the 4,134 staff who attended the Summer Institute during the study period, 487 (10.6%) responded to the workforce survey. Of these participants, 232 were clinicians and 174 were supervisor/administrators. The demographic and clinical experience of participants and the organizational characteristics of their workplace/agency that may have contributed to changes in their treatment are reported in Table 1.

Demographic characteristics

It is observed that 67.0% of the cohort were aged 41 or older; the majority were Caucasian (64%) and a quarter were African American (24.9%); 55.6% provided behavioral related treatment services for more than ten years. The respondents were a small self-selecting sample of staff members who received the training intervention.

Agency characteristics

Over a third (34.3%) of staff respondents reported being from agencies that provided COD services, 66.5% agreed that their agency has set goals, has a positive attitude towards COD and consists of knowledgeable staff regarding the treatment of consumers with COD; 61.4% reported that COD screening and assessment was conducted with 90% or more of all consumers entering their agency and 66.3% reported that their agency employed integrated treatment plans; provided education and information to consumers and actively sought feedback. The biggest barrier in implementing COD screening and assessment was reported to be untrained staff (29.4%), followed by time constraints (24.9%). Only a small proportion of staff felt their agency presented barriers to COD screening and assessment (10.9%). Among barriers in implementing COD treatment, inadequate COD treatment training was reported as the biggest barrier (32.2%), followed by staff knowledge/attitude (28.9%). Agency policy was viewed as a barrier for implementing COD treatment by 9.9% of respondents.

Table 1: Staff Survey of Factors related to COD Treatment (n=487).

			% (n)		Mean ± standard deviation
Staff Characteristics					
Age:	≥41 years		67.0	(317)	
< 41 years			32.9	(156)	
Race:	Caucasian		63.9	(311)	
	African American		24.9	(121)	
	Other		11.2	(55)	
Number of years worked in mental health/substance					
abuse treatment services:		≤10 years	44.4	(203)	
		>10 years	55.6	(254)	
Agency Characteristics					
Agency type:					
Alcohol and/or other drugs (AOD) only			8.8 (43)		
Mental Health only			19.9	(97)	
Co-Occurring Mental Health and AOD (COD) only			34.3	(167)	
Other			36.9	(180)	
Agency Goals:					
My agency has set goals, positive attitude and knowledgeable staff					
regarding the treatment of consumers with COD					
Yes			66.5	(324)	
My agency provides COD screening and assessment on 90% or more					
of all consumers entering treatment					
Yes			61.4	(299)	
My agency provides integrated treatment plan, education and					
information to consumers and actively seeks feedback			66.3 (323)		
Yes					
Biggest barriers in implementing COD screening and assessment					
(perceived by staff)		Agency policy	10.9	(53)	
		Lack of screening tools	23.6	(115)	
		Staff not trained in tools	29.4	(143)	
		Time constraints	24.9	(121)	
		Other	12.5	(61)	
Biggest barriers in implementing COD treatment					
(perceived by staff):		Agency policy	9.9 (48)		
		Staff knowledge/attitude	28.9	(141)	
		Time constraints	20.3	(99)	
		Inadequate COD treatment training	32.2	(157)	
		Other	8.6 (42)		
Training Characteristics					
Survey Year:	2009		16.0	(78)	
	2010		31.2	(152)	
	2011		52.8	(257)	
Mean number of sessions ± standard deviation					4.2±4.9

Training intensity and change in COD treatment

The mean number of training sessions was 4.2 per staff person (sd 4.9), with 47.4% saying they had changed their practice strategies as a result of COD training. Table 2 shows the results of the logistic regression. The intervention variable, total number of training/consultation sessions was significantly associated with staff perception of change in COD treatment approach. One additional training/consultation resulted in a 15% increase in the odds of changing one's COD treatment approach (OR=1.15; p<0.0001).

Three agency factors were also significantly related to change in COD practice. Staff that worked in a drug treatment agency, rather than a mental health agency, had a 194% increase in the odds of changing their COD practice (OR=2.94). Those in agencies that had high percentages of COD consumers screened and assessed, i.e. 90% or more, reported a 126% higher likelihood of changing their COD practices (OR=2.26). Similarly, staff in agencies that provided integrated treatment plans, education and information to its consumers were 135% more likely to change their COD practices (OR=2.35).

Table 2: Logistic regression of factors associated with changes in COD treatment practices (n=487).

		Change in COD practice	
		OR	95% CI
Staff Characteristics			
Age:	≥41 years	0.84	0.51 - 1.41
Race:	Caucasian	0.91	0.43 - 1.90
	African American	1.26	0.57 - 2.71
Number of years worked in mental health/substance			
abuse treatment services:		1.35	0.83 - 2.18
	≤10 years		
	Agency Characteristics		
Agency type:			
Alcohol and/or other drugs (AOD) only		2.94*	1.27 - 6.78
Mental Health only		1.01	0.55 - 1.88
Co-Occurring Mental Health and AOD (COD) only		1.39	0.79 - 2.45
Agency Goals:			
My agency has set goals, positive attitude and knowledgeable staff regarding the treatment of consumers with COD			
Yes		0.64	0.36 - 1.16
My agency provides COD screening and assessment on 90% or more of all consumers entering treatment		2.26*	1.29 - 3.95
Yes			
My agency provides integrated treatment plan, education and information to consumers and actively seeks feedback		2.35*	1.30 - 4.23
Yes			
Biggest barriers in implementing COD screening and			
assessment (as perceived by staff):		1.53	0.74 - 3.16
	Agency policy		
	Lack of screening tools	0.82	0.48 - 1.39
	Staff not trained in tools	1.43	0.83 - 2.46
	Time constraints	1.31	0.75 - 2.28
Biggest barriers in implementing COD treatment			
(as perceived by staff):		0.95	0.44 - 2.08
	Agency policy		
	Staff knowledge/attitude	0.87	0.51 - 1.48
	Time constraints	1.45	0.82 - 2.76
	Inadequate COD treatment training	1.33	0.77 - 2.29
	Training Characteristics		
Survey Year:	2009	2.55*	1.21 - 5.38
	2011	2.15*	1.28 - 3.61
Number of sessions		1.15*	1.09 - 132

Note: OR= Odds Ratio; CI=Confidence Interval; *Omitted categories* - Age: < 41 years; Race: Caucasian/other; Number of years worked: >10 years; Agency type: Other; Agency goals: No; Barriers (perceived by staff): Other barriers; and Survey year: 2010
* p<.05

DISCUSSION

The results of the workforce survey suggest that a large scale state funded and operated practice intervention, using a consultation model in addition to training workshops and supervision, shows promise as an effective strategy for changing practice patterns of staff treating individuals with COD. Direct supervision was particularly sought after by most clinical staff. Evidence from research studies show that supervision is, in fact, the most effective way of providing certain types of skills. Some examples of skills that are best enhanced through direct supervision, and were used in this consultation/training program include active listening, interviewing techniques, the ability to summarize, and the capacity to provide feedback. Also, strong, active supervision of on-going cases is considered a key element in assisting staff to develop, maintain, and enhance relational skills [12,13,20].

In addition, a key component of the consultation program in Delaware involved cross-training, i.e. the training of more than one discipline at a time. Delaware followed the recommendations of a consensus panel in which counsellors of either field receive at least basic level cross-training in the other field [14]. Education and training efforts were also customized with respect to content and scheduling, as recommended by the panel. The training was also brought to the trainee whenever possible in their agencies. Furthermore, agency and program administrators, including both line-level and clinical supervisors were involved and support was provided to encourage training of the workforce, as well as in developing COD competencies themselves.

The results of this evaluation had several limitations that should be addressed. First, the staff level training and practice information was collected over several years so it is possible that a staff member was in the sample more than once. To identify any duplicates we examined the data for matches on several variables and eliminated anyone who had identical information. Also, the type of training and the actual number of hours of the training were not known at the staff member level. Furthermore, the number of sessions attended was self-reported which may have resulted in under or over reporting.

Additionally, the generalizability of the study sample to the rest of the workforce in Delaware cannot be ascertained due to the small sample that responded to the survey, although as a rule of thumb, 10-20% is not uncommon in survey research [21]. Also, research done by Schouten, Cobben, & Bethlehem, 2009 [22] showed that there is no clear relation between response rate and representativeness of response although higher response rates reduce the risk of non-response bias. In our case, the demographics of the Institute participants reflected the survey respondents with respect to gender and race [15].

In summary, the COSIG funded training effort appears to show promise in changing attitudes and improving skills, however, there is still considerable need to continue the investigation into the strength of the relationship between perceived change and actual change and how this translates into patient outcomes. Though research has documented the clinical outcome improvements of individuals receiving COD treatment in randomized trials [23], we need to evaluate the clinical benefits for clients treated in public sector settings where there is a high prevalence of COD clients.

Another area of interest is the role of supervision, as it relates to client outcome. Studies exploring the type and mix of consultation that is most effective (individual versus group); how much training is needed to build confidence in using new knowledge; and the merit of internal versus external consultation could inform this emerging area of research.

From a sustainability perspective, brief training and employing computer delivery strategies may be an effective means of enhancing the skills of staff. This approach would make the training more accessible, cost efficient and useful in situations where there is high therapist turnover and limited resources available to provide consultation. Finally, research can offer guidance to decision makers on the contribution that each component associated with practice change can play, so they can direct their efforts most effectively. A more robust hierarchical regression model should be constructed where the site level agency characteristics can be associated with the staff level factors in order to separate out the effects of various components.

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