

The Impact of Technical Assistance and Implementation Support on Program Capacity to Deliver Integrated Services

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Abstract

This study assessed gains that New York State mental health and addiction outpatient clinics achieved in their capacity to provide integrated mental health and substance abuse services for persons with co-occurring disorders. The investigators used two Dual Diagnosis Capability (DDC) indices—one for Addiction Treatment (DDCAT) and one for Mental Health Treatment (DDCMHT)—to measure integration capability at baseline (n= 603) and at follow-up (n= 150), an average of 2 years post-baseline, during which time programs received technical assistance and implementation support. At baseline, the average program score was 2.68, below the “Capable” level (3.0 on a 5-point scale). At follow-up, the average score was 3.04, and the percent of programs rated Capable more than doubled (from 22 to 52%). Programs with lower baseline scores and those with more time to follow-up (2–3 years) had the greatest increases, but 12 to 18 months were sufficient to realize sizeable and significant improvements.

Introduction

Over the past two decades, “integrated treatment” has become a prominent strategy to meet the needs of patients with co-occurring mental health and substance use disorders (co-occurring disorders or “COD”). Integrated treatment is generally considered to be the combination of interventions for COD (using any means) within a treatment or service setting.¹ A range of integrated approaches suitable for persons with COD have been documented in several comprehensive resources, e.g.,^{1–4}, and a growing research base has been established for such approaches.^{2,3} As a result, integrated treatment is widely perceived as the best choice for persons with COD.

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To measure the capability of programs to deliver integrated services, McGovern and colleagues have developed two *Dual Diagnosis Capability* (DDC) indices: one for use in *Addiction Treatment* (AT) settings, the DDCAT index,^{5,6} and the other for use in *Mental Health Treatment* (MHT) settings, the DDCMHT index.⁷ Since their development, these two indices have been used in approximately 40 states across the USA and internationally.⁸ Published data from the DDCA[MH]T indices show that a vast majority (70–80%) of programs do not meet the “Capable” standard (a score of 3.0 on a 5-point scale).^{8–13}

In New York State, the Office of Mental Health (OMH) and the Office of Alcoholism and Substance Abuse Services (OASAS) have initiated system level policy changes to foster the integration of mental health and substance abuse services. In November 2008, the New York State Health Foundation (NYSHealth) established the Center for Excellence in Integrated Care (CEIC) to transform the system of care for 1.4 million New Yorkers suffering from both mental health and substance use disorders. The purpose of the large-scale project conducted by CEIC (and as reported here) was to provide technical assistance to New York State mental health and addiction outpatient clinics to increase their capacity to provide integrated mental health and substance abuse services for persons with COD.

Implementation science as a framework

The technical assistance provided to outpatient mental health and substance abuse clinics was informed primarily by the Facilitating Adoption of Best Practices (FAB) model,¹⁴ which focuses on the implementation of evidence-based practices at the organizational level.¹⁵ Through 15 years of experience, the investigative team has drawn from the following eclectic array of implementation principles, culled from the literature on advances in implementation science, each is considered to be essential to achieving desired outcomes.

Obtain top-down support

Leadership buy-in and involvement or what can be termed as “top-down support” is essential to the successful implementation of any new innovation.^{16–18} Because leaders of an organization largely influence company culture, their lack of buy-in and commitment to any potential innovation would all but assure that these interventions will not be adopted in practice or embraced by staff. In addition, once a decision to adopt an innovation has been made, support from management will be needed to institutionalize the initiative as a part of everyday business. Without this support, the resources necessary to support the implementation may not be made available and barriers may not be addressed.

Obtain staff input

Prior research suggests that people are more likely to invest in and commit to organizational policies that they have helped to shape, opposed to policies that have been imposed upon them.^{19–21} In fact, research has shown that, even if they were not directly involved in the decision, people are more willing to accept administrator-derived policies when their input is considered during the actual implementation process.^{22,23} Thus, it is critical to solicit and incorporate staff feedback and involve key clinical staff throughout the implementation process to ensure the level of staff commitment and buy-in necessary for success.

Facilitate a change process

Together, program leadership and clinical staff can function as “purveyors”²⁴ or “change agents”²⁵ to guide the implementation of a specific practice or program. This can be done through more formally structured “change teams” or through more informally structured partnerships between organizational champions.²⁶

Promote peer-to-peer learning

Technical assistance initiatives often employ a Learning Collaborative model that involves the participation of multiple organizations committed to improving services within specific clinical areas. This model facilitates inter-organizational collaboration and in the process, peer-to-peer interaction that enables the participants to share and learn from their collective implementation experiences and challenges.²⁷

Employ measurement and feedback

It is important to employ measurement that can help to conceptualize and evaluate implementation success.²⁸ Without measurement, the success of implementation is often judged on perceptions and anecdote. Formal measures offer a means of providing “real time” feedback, which fosters rapid cycle improvement through the repeated assessment of a quality improvement initiative.²⁹

Build staff readiness and competencies

It is important to provide clinical staff with the training and “tools” that are necessary to facilitate the implementation of a new innovation. Without adequate training, staff is likely to view themselves as being ill-equipped to take on the day-to-day demands of a new practice innovation. However, while training is the most common method for disseminating information about new practices, research has shown that healthcare services are only modestly improved, and training alone does not result in sufficient practice change or the spread of evidence-based practices.^{30–32} Because training workshops alone have been largely ineffective, more comprehensive process improvement strategies are needed to facilitate the implementation of new innovations. This often takes the form of longitudinal, “hands-on” technical assistance that guides the implementation process and is intended to assist with negotiating barriers as they arise.

In providing technical assistance, CEIC required the participation of program leadership (e.g., executive directors, program directors, and clinical supervisors) and key clinical staff in the on-site assessment process. As outlined above, the participation of both parties and the forming of a partnership between parties were believed to be essential to facilitating a change process (i.e., increasing COD capability) within each of the individual programs. The CEIC initiative employed measurement (DDCA [MH]T) to assess Dual Diagnosis Capability and inform a set of recommendations (offered in a detailed written report) for improving that capability; followed by individual support, if necessary, to facilitate implementation of recommendations. Follow-up workshops were offered to participating programs to reinforce the implementation goals and objectives, with the intent of promoting more inter-organizational collaboration. A more detailed outline of the technical assistance process employed is described below.

Materials and Methods

The technical assistance process

Assessment Tools The DDCAT⁶ and DDCMHT⁷ indices employed in this study included 35 items organized into 7 dimensions: (1) *Program Structure*, four items; (2) *Program Milieu*, two items; (3) *Clinical Process—Assessment*, seven items; (4) *Clinical Process—Treatment*, ten items; (5) *Continuity of Care*, five items; (6) *Staffing*, five items; and (7) *Training*, two items. Each item was scored on a 5-point scale of *Dual Diagnosis Capability* with three anchor points: 1 = “Basic,” AOS (*Addiction Only Services*) or MHOS (*Mental Health Only Services*); 3 = “Capable,” DDC (*Dual Diagnosis Capable*); and 5 = “Enhanced,” DDE (*Dual Diagnosis Enhanced*). The dimension score is the average of item scores within that dimension, and the overall score is the average of the seven dimension scores. Both indices have demonstrated good psychometric properties, including internal consistency and inter-rater reliability.

Site Visit Procedures During the on-site visit, which lasted from 3 to 4 hours, an assigned assessor used either the DDCAT (for addiction programs) or the DDCMHT (for mental health programs) to obtain independent scores for the program. Assessors were senior clinical and research staff who had received training from the developer of the DDCA[MH]T indices, Dr. Mark McGovern. The primary data source was an in-depth semi-structured interview organized along the seven dimensions of the DDCA[MH]T and administered collectively to a group drawn from key program staff (typically representatives of executive leadership, program directors, clinical supervisors, medical staff, and counselors); consumers were also interviewed whenever possible. The assessor obtained additional information from observing program activities (such as client groups and staff meetings); talking with other program staff; reviewing program documents (policy and procedure manuals and clinical forms and charts); and touring the program facility. Results from this on-site assessment served as the foundation for technical assistance recommendations.

Technical Assistance/Implementation Support The approach to technical assistance consisted of a series of four activities that are collectively intended to build a program’s capacity to provide COD clients with effective, high quality care. This approach is informed by the results of the DDCA[MH]T on-site assessment and includes recommendations for improving COD capability and implementation support to facilitate goal achievement.

1. *Site Visit Feedback.* At the end of the site visit, the assessor provided preliminary feedback to program staff, summarizing key strengths to build on, and identifying immediate opportunities to improve COD capability. Thus, the baseline DDCA[MH]T assessment provided not only a standard measure of COD capability, but also a framework and benchmarks for developing technical assistance recommendations.
2. *Assessment Report.* Within a week of the site visit, the provider received a formal report that included (1) a narrative review of the assessor’s observations and recommendations for improving the program’s COD capability in each dimension; (2) a program score sheet denoting the score received on each of the 35 items, summary scores for each dimension, and overall; and (3) a line graph of dimension scores, depicting the program’s profile such that the provider could readily identify strengths and opportunities for enhancement. The report’s

recommendations contained links to relevant training/technical assistance resources, including (but not limited to) webinars, curricula, workshops, and in-service training manuals (e.g., TIPs), along with other relevant resources (e.g., journal articles, reports, and fact sheets).

3. Implementation Support. Researchers developed resource documents to support building capability (e.g., “*Quick Guides*” that summarized the most common recommendations), along with detailed program guidelines that provided a roadmap to achieving “Capable” or “Enhanced” levels of care. The primary emphasis was on “*Getting-To-Capable*”; i.e., changes that were easy to implement, required few resources, and circumvented barriers, yet could have a potent effect (e.g., welcoming clients; posting educational material; screening; and starting a dual recovery group).
4. Workshops. Follow-up workshops were offered to programs that had completed an on-site assessment. The “*Building Capability*” workshop was designed to reinforce feedback (from the on-site assessment and subsequent report) and to provide guidance for implementing recommendations. Specifically, providers were encouraged to develop an implementation plan with five to seven goals (along with specific objectives) that could be achieved quickly. For providers who had not yet developed recovery approaches, and who reported significant barriers to implementing changes, a supplementary *Recovery workshop* was offered to assist in translating more traditional service delivery models into a recovery orientation.

Program sample and selection

Baseline The baseline sample, collected in >4 years, consisted of 603 outpatient programs licensed to operate in New York State (NYS) by either the Office of Mental Health (OMH) or the Office of Alcoholism and Substance Abuse Services (OASAS). A variety of methods were used to recruit programs (e.g., cold-calling; direct- and Web-based referrals; networking at conferences and other events; professional contacts; provider organizations, in particular, the NYS Conference of Local Mental Hygiene Directors; and state and regional offices of the Departments of Health and Mental Health, OASAS and OMH).

Follow-up A follow-up sample of 150 programs was randomly selected to evaluate the impact of technical assistance and implementation support. The sampling universe consisted of programs that had completed a baseline DDCA[MH]T assessment on or before June 30, 2011 ($n=282$ of the 473 baseline assessments completed on that date), which would allow 12-month follow-up assessments to be administered on or before October 31, 2012 (the end of the fourth year of data collection). The study sample was stratified by (1) New York State region (8); (2) program type (mental health or substance abuse); and (3) baseline DDCA[MH]T score (an equal number of programs above and below the mean).

The percent of programs in each stratum reflected the statewide distribution of programs to the extent possible within the sampling universe. Random numbers were applied to a list of eligible programs (i.e., those assessed on or before June 30, 2011) in each region, and then used to draw a random sample divided equally between mental health and substance abuse programs and between programs above and below the mean DDCA[MH]T score. DDCA[MH]T scores ($t_{1,282}=0.10$) for addiction (OASAS) and mental health (OMH)

programs did not differ significantly, so the combined baseline mean of 2.71 (standard deviation [SD]=0.52) defined “Low” and “High” baseline scores for both types of programs.

Substitutions Of the first 150 programs approached to participate in the follow-up site-visit evaluation, 120 (80%) agreed to participate. Of those programs that refused a second site visit, 12% ($n=18$) cited time and resource limitations; while 8% ($n=12$) had closed, consolidated, or restructured their services, reducing the overall number of programs available for re-assessment. When substitutions were necessary, characteristics of the substituted programs were matched (i.e., region, program type, and baseline score). In four instances, a replacement program with the most similar characteristics (program type and baseline score) was selected from an alternate region because, after all programs had been approached, the original region’s target sample had not been met.

Inter-rater reliability

Assessors, drawn from senior clinical and research staff who had received training from the developer of the DDCA[MH]T, Dr. Mark McGovern, conducted all on-site assessments; a different assessor conducted independent follow-up assessments on a subset of clinics ($n=10$). Inter-rater reliability (Intra-class Correlation Coefficient [ICC]) was 0.961 for the overall score, with ICCs for the individual dimension ranging from 0.690 to 0.945.

Analytic plan

Analyses focused on the outcomes—primary (the improvement in COD capability, measured with the DDCA[MH]T indices) and secondary (the relationship between time elapsed from baseline to follow-up and improvements in COD capability). For the primary outcome, paired sample (repeated measures) t-test was used to determine whether DDCA[MH]T scores (overall, by dimension, and for each item) increased significantly. For the secondary outcome, a Pearson correlation coefficient was used to determine the strength and direction of the association between time elapsed and improvement in COD capability. ANOVAs were then employed to examine the same relationship using a categorical breakdown of time elapsed.

Results

Average mean baseline and follow-up scores ($n=150$) by dimension and overall were obtained from on-site assessments using the DDCA[MH]T indices (Fig. 1). Baseline DDCA[MH]T assessments of 150 outpatient programs had an average overall score of 2.68 (standard deviation [SD]=0.42), demonstrating that these programs were closer to “Capable” (3.0=DDC) than to “Basic” (1.0=AOS or MHOS). The *Assessment* and *Staffing* dimensions, with the highest scores, were above “Capable,” while *Program Structure*, *Program Milieu*, *Treatment*, *Continuity of Care*, and *Training* were all below “Capable.” Follow-up assessments, conducted at least 1-year post-baseline, indicated that (1) the average overall score had increased significantly to 3.04 (SD=0.35) and (2) 52% of programs were rated “Capable,” more than double the 22% that were rated “Capable” at baseline (not shown). Figure 1 also shows that significant gains were achieved overall and in each of the dimensions, ranging from 0.16 for *Assessment* to 0.68 for *Training*.

Gains overall and by dimension

Table 1 illustrates improvements for each of the indices' 35 items. Significant increases were shown for 26 items, for all 7 dimensions, and for the majority of items in each dimension except *Assessment* (where three of seven items had significant increases; and three more items were already above the 3.0 "Capable" level). Of the nine items that had non-significant changes, four increased slightly and five slightly decreased (<0.11 on the 5-point scale).

Time elapsed between site visits and gains in COD capability

On average, programs ($n=150$) received a follow-up assessment nearly 2 years (mean=650 days; $SD=197.31$) after their baseline assessment, with a range of from 1 to 3 years (373 to 1,190 days).

1. Pearson correlation coefficients (not shown) revealed that the interval between assessments was significantly associated with the improvement in overall DDCA[MH]T score ($r=0.166$; $p=0.043$), indicating that more time between site visits meant more improvement in COD capability.
2. Table 2 shows that programs with the longest time between baseline and follow-up (2 to 3 years) achieved the largest gain in capability (0.48). Conversely, gains for programs with the shortest (1 to 1.5 years) interval (0.38) were greater than the gains for programs in the intermediate (1.5 to 2 years) interval (0.26) ($F=7.003$).
3. Increases were significantly less for "Capable" programs (mean=0.15, $SD=0.17$) than for programs below "Capable" (mean=0.42, $SD=0.32$; $p<0.001$) ($t=4.717$).

Figure 1
Improvements in COD Capability at Follow-up

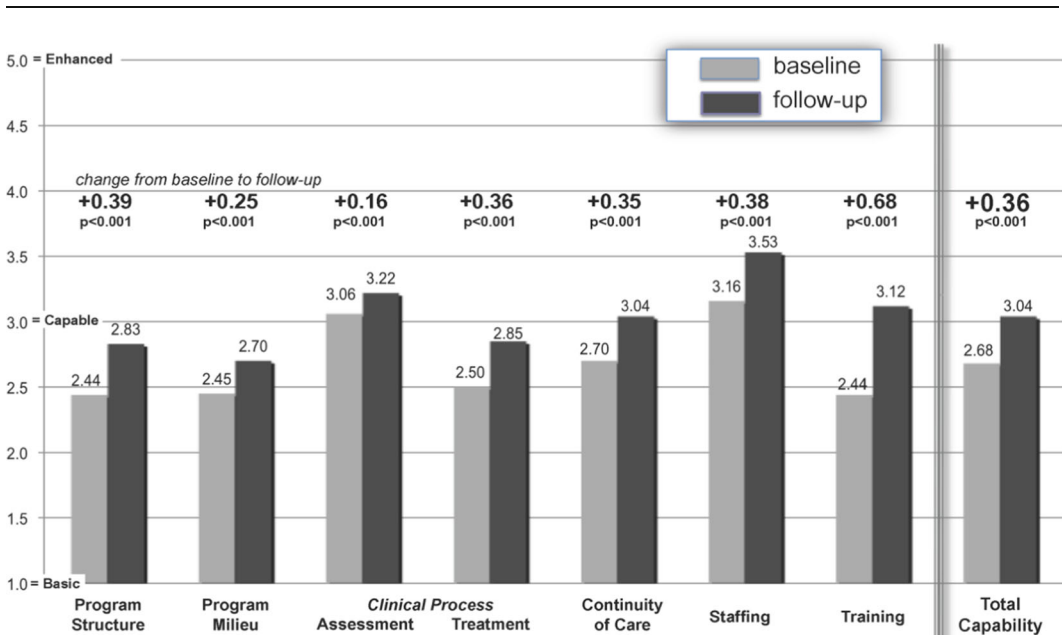


Table 1
Item-by-item improvements in COD capability

		Baseline	Follow-up	
		<i>n</i> =150	<i>n</i> =150	<i>p</i> <
Dimension and item				
[1.0]	Program structure	2.44 (0.40)	2.83 (0.48)	0.001
1.1	Mission statement	1.56 (0.97)	2.24 (1.15)	0.001
1.2	Organizational certification and licensure	2.89 (0.46)	3.01 (0.38)	0.018
1.3	Coordination and collaboration	2.49 (0.81)	3.03 (0.97)	0.001
1.4	Financial incentives (billing)	2.84 (0.52)	3.05 (0.29)	0.001
[2.0]	<i>Program Milieu</i>	2.45 (0.62)	2.70 (0.60)	0.001
2.1	Program receptivity to patients with COD	3.22 (0.68)	3.17 (0.44)	ns
2.2	Display/distribution of patient educational materials	1.67 (0.93)	2.23 (1.04)	0.001
[3.0]	<i>Clinical process—assessment</i>	3.06 (0.49)	3.22 (0.35)	0.001
3.1	Routine screening	3.31 (0.85)	3.89 (0.50)	0.001
3.2	Routine integrated assessment	3.23 (0.89)	3.65 (0.76)	0.001
3.3	Documentation of diagnoses for both disorders	3.49 (1.09)	3.53 (0.83)	ns
3.4	COD history reflected in medical record	3.15 (0.56)	3.14 (0.49)	ns
3.5	Program acceptance based on acuity	3.17 (0.59)	3.13 (0.43)	ns
3.6	Program acceptance based on severity	3.19 (0.61)	3.11 (0.49)	ns
3.7	Stage-wise assessment	1.86 (0.97)	2.09 (0.87)	0.009
[4.0]	<i>Clinical process—treatment</i>	2.50 (0.50)	2.85 (0.43)	0.001
4.1	Integrated treatment planning	2.91 (0.61)	3.12 (0.52)	0.001
4.2	Monitor interactive course of both disorders	2.66 (0.77)	2.73 (0.51)	ns
4.3	Procedures for emergencies	2.45 (0.66)	3.08 (0.70)	0.001
4.4	Stage-wise treatment	1.85 (1.05)	2.21 (1.05)	0.001
4.5	Policies for medication evaluation and management	2.69 (1.18)	2.65 (0.96)	ns
4.6	Specialized COD interventions	2.77 (0.95)	3.38 (0.84)	0.001
4.7	Psycho-education	2.64 (0.84)	2.94 (0.71)	0.001
4.8	Family education and support	2.06 (0.84)	2.75 (0.62)	0.001
4.9	Specialized interventions to facilitate peer support	2.55 (0.89)	3.15 (0.64)	0.001
4.10	Availability of COD peer recovery supports	2.34 (1.07)	2.45 (0.94)	ns
[5.0]	<i>Continuity of care</i>	2.70 (0.53)	3.04 (0.38)	0.001
5.1	COD addressed in discharge plan	2.86 (0.66)	3.13 (0.41)	0.001
5.2	Capacity to maintain treatment continuity	2.88 (0.73)	3.33 (0.59)	0.001
5.3	Focus on ongoing recovery issues for both disorders	2.92 (0.65)	3.11 (0.43)	0.001
5.4	Facilitate connections to community peer support	2.55 (0.71)	2.88 (0.59)	0.001
5.5	Sufficient supply and compliance plan for medications	2.26 (1.12)	2.74 (0.93)	0.001
[6.0]	<i>Staffing</i>	3.16 (0.64)	3.53 (0.49)	0.001
6.1	Access to a prescriber	3.37 (1.34)	3.68 (1.05)	0.009
6.2	Clinical staff members with licensure	3.36 (1.36)	3.93 (1.07)	0.001
6.3	Access to COD supervision and consultation	3.58 (0.85)	3.48 (0.54)	ns
6.4	Case review procedures that emphasize COD	3.19 (0.69)	3.83 (0.60)	0.001
6.5	Availability of COD peer/alumni supports	2.25 (1.14)	2.74 (0.90)	0.001
[7.0]	<i>Training</i>	2.44 (0.70)	3.13 (0.65)	0.001
7.1	Staff have received basic COD training	2.56 (0.74)	3.25 (0.79)	0.001
7.2	Staff have received advanced specialized training	2.32 (0.88)	2.99 (0.71)	0.001

Discussion

Summary of findings

The evaluation study presented in this article represents the most extensive effort to measure COD capability in a State outpatient system of behavioral health care, and the largest scale evaluation of the impact of technical assistance on COD capability conducted to date. A large number of addiction and mental health outpatient clinics ($n=603$) participated in this effort to improve integrated services for persons with co-occurring substance abuse and mental health conditions in New York State. Baseline results, measured with the DDCA[MH]T indices, for a follow-up sample ($n=150$) indicated that the system was functioning somewhat below the “Capable” level (2.68). At follow-up, an average of 2 years later, after having received technical assistance and implementation support, clinics had realized significant gains to above the “Capable” level (3.04). Significant improvement was evident for all seven dimensions and for the majority of items (26 of 35).

Gains in COD capability by dimensions and items

Programs were able to make certain changes, as evinced by significant gains found for all seven dimensions and for the majority of items (Table 2). A subset of ten items had the largest gains, while nine items had no significant change. The former could constitute a set of changes that are easiest to accomplish, while the latter could reflect changes that are more difficult to achieve (i.e., require more time or resources). Table 3 below lists the ten items with the largest gains (≥ 0.56) and the nine items with a little or no (non-significant) change.

Clinical significance of study findings

The results of this study were both statistically significant and clinically meaningful. Table 3 lists the ten items that saw the largest improvements at follow-up. These improvements speak directly to the implementation of evidence-based clinical practices in the area of screening (i.e., the routine use of standardized and validated tools for mental health and substance abuse), treatment (specialized interventions for COD, psychoeducation, family education and support, and mutual self-help), clinical supervision (i.e., case review procedures that emphasize staff development around co-occurring disorders), and staff training. Although the present study did not address client outcomes, a recent study by the investigative team found a significant positive relationship between DDCAT scores and length of stay (a known predictor of longer term outcomes), meaning that the

Table 2
Relationship between days elapsed and gains in COD capability

Time elapsed between site visits	N	Mean gain	Lower bound 95% CI	Upper bound 95% CI
<i>Shortest</i> —12–18 months (365–550 days)	52	0.3800 (0.28)	0.30	0.46
<i>Intermediate</i> —18–24 months (551–730 days)	54	0.2561 (0.25)	0.19	0.32
<i>Longest</i> —24–36 months (731 or more days)	44	0.4820 (0.37)	0.37	0.59
Total	150	0.3653 (0.31)	0.32	0.42

CI Confidence Interval

Table 3

Items showing greatest and least (non-significant) change

Dimension	Largest gains	Non-significant [little or no] change
[1] Program structure	[1.1] Mission statement	None
[2] Program Milieu	[2.2] Display/distribution of educational material	None
[3] Clinical process— assessment	[3.1] Routine screening	[3.3] Document diagnoses for both disorders [3.4] COD history reflected in medical record [3.5] Program acceptance based on acuity [3.6] Program acceptance based on severity
[4] Clinical process— treatment	[4.3] Procedures for emergency [4.6] Specialized COD interventions [4.8] family education and support [4.9] Specialized interventions to facilitate peer support	[4.2] Monitor interactive course of both disorders [4.5] Policies for medication evaluation and management [4.10] Availability of COD peer recovery support
[5] Continuity of care	None	None
[6] Staffing	[6.4] Case review procedures that emphasize COD	[6.3] Access to COD supervision and consultation
[7] Training	[7.1] Staff have received basic COD training [7.2] Staff have received advanced COD training	None

clients with COD stayed longer in programs that had higher DDCAT scores.³³ This offers initial evidence that program improvement in COD capability does in fact represent clinically significant change.

Ultimately, the DDCA[MH]T assessment process was comprehensive (i.e., across 7 domains and 35 individual items) and intended to offer programs a variety of potential strategies for improving integrated care. Programs developed their own implementation plans, based on recommendations offered through the TA process, typically prioritizing those changes that were most feasible to accomplish given their specific resource limitations. Because each program was positioned uniquely in that regard, the TA process did not prescribe changes that were considered to be essential to integration, but rather met programs where they were at to ensure that programs were engaged and encouraged. For example, in programs where it was evident that integration was minimal, recommendations emphasized the need to improve the environment to better communicate receptivity to co-occurring disorders (e.g., educate staff, revise the organizational

mission, and offer patient educational materials), enhance screening and assessment practices to improve identification of COD, and increase staff training to better equip them to address COD. For programs with existing strengths in these areas, recommendations emphasized enhancements to treatment (e.g., greater use of curriculum-based approaches and evidence-based practices), clinical supervision, and the continuity of care. Overall, programs ranged substantially in terms of their capability scores (1.47 to 3.92 for the evaluation sample of 150 programs and 1.22 to 4.06 for the full sample of 603 programs), which required a very tailored and individualized approach to TA.

Program perspectives on the utility of the technical assistance provided

Case studies ($n=5$) were completed with five programs that participated in the evaluation. These case studies gathered perspectives of the participating staff on their experiences overall with the TA provided, the ways in which it was essential to service improvement and how it was utilized to improve integration. Numerous positive benefits of CEIC were cited including (1) expertise in COD treatment was necessary to conceptualize changes required to become “co-occurring friendly;” (2) written reports provided a “roadmap” of potential changes that would result in improved integration; (3) the measures used were essential to identifying organizational “strengths and weaknesses” which helped to narrow down organizational goals for service enhancement; and (4) the implementation support provided by CEIC was critical to “overcoming emerging barriers” to the integration of care. Programs did not cite specific improvements as being most critical but instead spoke to the variety of improvements that they were able to make and how those improvements collectively impacted the capacity of the program to treat clients with COD. Programs typically expressed surprise at the relative ease of which they were able to implement many of the recommendations and in some instances the larger than anticipated impact of seemingly minor service enhancements. Programs often cited a very comprehensive yet practical vision of integrated care that was feasible to pursue in today’s service climate.

Time elapsed between site visits and GAINS in COD capability

Programs with lower baseline capability scores and with more time to follow-up showed the greatest gains, although the pattern of improvement suggests that (1) programs with lower capability at baseline had more room for improvement on the 5-point scale and therefore tended to make greater advancements; (2) 12 to 18 months were sufficient time to bring about statistically significant change (which as argued above should also equate to clinically meaningful change); although (3) additional time (beyond 12–18 months) resulted in further incremental gains (not statistically significant). That is, the change in DDCA[MH]T scores for programs with a follow-up assessment interval of 12 to 18 months (0.38) versus 24 or more months (0.48) was not statistically significant. Thus, the project’s approach maximized its efficacy among programs with a baseline score below “Capable” (i.e., ~75% of the programs in this and in other studies), and programs could realize “meaningful change” (i.e., achieve a “Capable” rating) in 12 to 18 months.

“COD capability” as a benchmark for Integration

At the outset of the project, the mandate was simply to provide technical assistance (i.e., DDCA[MH]T assessment and implementation support) to as many outpatient mental health and substance abuse clinics as possible, for the purpose of improving program capacity to provide integrated care. COD capability (i.e., score of 3.0 or higher) was not established as the desired level of integration, primarily because it was unknown whether this goal was realistic given the current level of integration within programs had not been previously established. Nevertheless, since COD are common in both addiction and mental health settings, it has been suggested that programs

should be at least *Dual diagnosis Capable*.³⁴ Thus, after determining early on in the project that the large majority of programs were scoring below capable and that many of these were “approaching capable” (i.e. scored in the 2.50–2.99 range), it became clear that “getting to capable” was a realistic goal and as such, TA recommendations should emphasize service improvements that would advance programs to this level of integration. In taking this approach, programs expressed a great deal of satisfaction with the simplicity of many of these recommendations and the fact that implementation typically was not contingent upon the acquisition of more resources. Once there was a clear understanding that COD capability can be realistically achieved, and that clinically meaningful improvements could be made without achieving a level of enhanced service integration, providers were less focused on the barriers and more action oriented. The same is true from a systems perspective. Achieving “capable” levels of integration in the vast majority of mental health and substance abuse programs would be sufficient for meeting the needs of most COD clients who present with more moderate symptoms.

Limitations

While study results demonstrated substantial and significant improvements in COD capability among participating programs, several limitations should be noted.

1. The baseline sample was not randomly selected from the universe of outpatient providers; rather, was comprised of programs that, once approached, volunteered to participate. These programs could have been early adopters or those that were, for whatever reason, especially amenable to technical assistance. Ultimately, the large baseline sample size served to ensure that the follow-up sample represented the full spectrum of capability, ranging from 1.52 to 4.06.
2. Interviewer bias could have artificially inflated follow-up scores. Although follow-up and baseline assessors differed, and follow-up assessors were unaware of the baseline score, assessors were still members of the same research staff and were certainly aware of the project’s goals. As a partial check on interviewer bias, an inter-rater reliability (ICC) of 0.961 for the overall score was established for a subset of ten follow-up clinics.
3. Although considerable efforts have gone into developing the DDCA[MH]T indices and establishing their psychometric properties, further study is required to determine the factor structure of the measures; the importance and proper weighting of each dimension; and the validity of the measure in relation to client outcomes.

It was difficult to decipher the unique impact of CEIC TA on COD capability given that significant NYS policy directives and other training/TA initiatives were operative at the same time. Over the life of the project, NYS enacted state-level systemic changes with the potential to facilitate services integration. Foremost, OMH and OASAS jointly issued directives and guidance documents to promote the use of evidence-based screening, assessment, and treatment services; changes in licensing and financing that affected billing and reimbursement for services followed. Other curricula-driven training and technical assistance activities occurred simultaneously (e.g., *Trauma-informed Care*; *Wellness Self Management*; and *Recovery*). One major State initiative was the *Focus on Integrated Treatment* (FIT), a Web-based training to advance COD competencies.³⁵

Unfortunately, the influence of statewide COD policy and training/TA initiatives could not be measured or tested, and it was not possible to include a control condition to test the efficacy of our TA approach. However, an examination of average scores for baseline assessments in each of 4 years revealed that COD capability was essentially constant (Year 1=2.62, $n=86$; Year 2=2.75, $n=166$; Year 3=2.68, $n=196$; and Year 4=2.72, $n=125$). The fact that baseline scores did not increase over time suggests that CEIC TA made an important contribution to the positive effects on COD program capability.

Implications for Behavioral Health

Research has consistently demonstrated the high prevalence of COD, the lack of integrated services, and the poor outcomes for COD clients, especially in the absence of integrated care. There is a scarcity of data that systematically describe program capacity to deliver integrated services for individuals with COD. Since co-occurring disorders are common in both addiction and mental health settings, it has been suggested that all programs should achieve a rating on the DDCA[MH]T of “Dual Disorder Capable” (DDC).³⁶ Yet, available data suggests that the large majority of programs (i.e., 70–80%) do not meet DDC criteria.^{8–10,12}

Results from this study demonstrate that significant program gains can be achieved in the delivery of integrated behavioral health services. Ultimately, achievement of a “Capable” rating is a feasible goal because, for the most part, this level of service integration can be achieved by introducing creative and innovative workforce strategies that promote more efficient methods of service provision and do not require the infusion of extensive new resources. In so doing, this initiative offers guidance to behavioral health providers on how to improve COD capability, which in turn, should improve the quality of behavioral health care provided to COD clients. Given the study design, it may be best to conclude that there is evidence for the impact of a direct TA/Implementation approach such as CEIC, when offered in the context of other policy mandates and training/TA initiatives.

Furthermore, this study has implications for the integration of behavioral health with primary care, promulgated under the Affordable Care Act.³⁷ That is, the activities, approaches, and successes in integrating substance abuse and mental health services provide a foundation for the additional integration with medical services. In fact, there now exists a new tool—*Dual Disorder Capability in Healthcare Settings (DDCHCS)*³⁸—that measures this integration, as a basis for determining the improvements that are needed in healthcare settings such as Federally Qualified Health Centers and Health Homes.

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Human Subjects The project did not test a treatment intervention, patients were not interviewed about personal information, nor were any confidential data requested; rather, program staff members were collectively interviewed about the program itself, and data collection related to the program, not to human subjects. NDRI’s IRB determined that the project was exempt, and that IRB oversight was not necessary.

Conflict of Interest No disclosures and no conflicts of interest for either author. Neither author has any conflict of interest to report; neither benefits in any way from the study nor its results.

References

1. Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment (CSAT). *Substance abuse treatment for persons with co-occurring disorders*. Treatment Improvement Protocol (TIP) Series, Number 42. S. Sacks, Chair & R. Reis, Co-Chair, Consensus Panel. DHHS Pub. No. (SMA) 05–3992. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2005. Available online at <http://www.ncbi.nlm.nih.gov/books/NBK64197/pdf/TOC.pdf>. Accessed on June 6, 2013.
2. Drake RE, Mueser KT, Brunette MF, et al. A review of treatments for people with severe mental illnesses and co-occurring substance use disorders. *Psychiatric Rehabilitation* 2004; 27(4): 360–374. DOI: [10.2975/27.2004.360.374](https://doi.org/10.2975/27.2004.360.374)
3. Drake RE, O’Neal EL, Wallach MA. A systematic review of psychosocial research on psychosocial interventions for people with co-occurring severe mental and substance use disorders. *Journal of Substance Abuse Treatment* 2008; 34(1): 123–138. DOI: [10.1016/j.jsat.2007.01.011](https://doi.org/10.1016/j.jsat.2007.01.011).

4. Nunes EV, Selzer J, Levounis P, et al. (Eds). *Substance dependence and co-occurring psychiatric disorders: Best practices for diagnosis and clinical treatment*. Kingston, NJ: Civic Research Institute, Inc., 2010.
5. McGovern MP, Becker K, Lambert-Harris C. *The Dual Diagnosis Capability in Addiction Treatment (DDCAT) index: A six state collaborative to enhance policy and implement evidence-based practices for co-occurring disorders*. Paper presented at the Substance Abuse Policy Research Program Annual Grantee Meeting, Amelia Island, FL, December 6, 2007a. Available online at http://www.adp.ca.gov/cod/pdf/mcgovern_ddcat_index.pdf. Accessed on December 3, 2011.
6. McGovern MP, Matzkin AL, Giard J. Assessing the dual diagnosis capability of addiction treatment services: The Dual Diagnosis Capability in Addiction Treatment (DDCAT) index. *Journal of Dual Diagnosis* 2007b; 3(2): 111–123. DOI: [10.1300/J374v03n02_13](https://doi.org/10.1300/J374v03n02_13).
7. Gotham HJ, Brown JL, Comaty JE, et al. Assessing the co-occurring capability of mental health treatment programs: the Dual Diagnosis Capability in Mental Health Treatment (DDCMHT) index. *Journal of Behavioral Health Services & Research* 2013; 40(2): 234–241. DOI: [10.1007/s11414-012-9317-8](https://doi.org/10.1007/s11414-012-9317-8).
8. Gotham HJ, Claus RE, Selig K, et al. Increasing program capability to provide treatment for co-occurring substance use and mental disorders: Organizational characteristics. *Journal of Substance Abuse Treatment* 2010; 38(2):160–169. DOI: [10.1016/j.jsat.2009.07.005](https://doi.org/10.1016/j.jsat.2009.07.005).
9. Lee N, Cameron J. Differences in self and independent ratings on an organizational dual diagnosis capacity measure. *Drug and Alcohol Review* 2009; 28(6): 682–684. DOI: [10.1111/j.1465-3362.2009.00116.x](https://doi.org/10.1111/j.1465-3362.2009.00116.x).
10. Matthews H, Kelly PJ, Deane FP. The dual diagnosis capability of residential addiction treatment centers: Priorities and confidence to improve capability following a review process. *Drug and Alcohol Review* 2010; 30(2): 195–199. (Epub August 19, 2010.) DOI: [10.1111/j.1465-3362.2010.00215.x](https://doi.org/10.1111/j.1465-3362.2010.00215.x).
11. McGovern MP, Lambert-Harris C, Gotham HJ, et al. Dual Diagnosis Capability in Mental Health and Addiction Treatment Services: An assessment of programs across multiple state systems. *Administration and Policy in Mental Health and Mental Health Services Research* 2014 (Epub, November 27, 2012; print available May 27, 2014); in press. DOI: [10.1007/s10488-012-0449-1](https://doi.org/10.1007/s10488-012-0449-1).
12. McGovern MP, Lambert-Harris C, McHugo GJ, et al. Improving the dual diagnosis capability of addiction and mental health treatment services: Implementation factors associated with program level change. *Journal of Dual Diagnosis* 2013; 6(3–4): 237–250. DOI: [10.1080/15504263.2010.537221](https://doi.org/10.1080/15504263.2010.537221).
13. Sacks S, Chaple M, Sirikantraporn J, et al.: Center for Excellence in Integrated Care: Capability of outpatient clinics in New York State to provide integrated care. *Journal of Substance Abuse Treatment* 2013 (Epub January 12, 2013); 44(5): 488–493. DOI: [10.1016/j.jsat.2012.11.001](https://doi.org/10.1016/j.jsat.2012.11.001).
14. Damush TM, Bravata DM, Plue L, et al. Facilitation of Best Practices (FAB) Framework. Stroke QUERI Center Annual Report, 2008.
15. Tabak, RG, Khoong EC, Chambers DA, et al. Bridging research and practice: Models for dissemination and implementation research. *American Journal of Preventive Medicine* 2012; 43(3): 337–350.
16. Dezdor S, Ainin S. The influence of organizational factors on successful implementation. *Management Decision*, 2011; 49(6): 911–926.
17. Forsner T, Hansson J, Brommels N, et al. Implementing clinical guidelines in psychiatry: a qualitative study of perceived facilitators and barriers. *BMC Psychiatry*, 2010; 10(8).
18. Yung SY, Chen C, Wang KH. Critical success factors for the implementation of integrated health care information systems practices: An organization fit perspective. *Communications of the Association for Information Systems* 2014; 34 (39): 775–796.
19. Cotton JL. Participation's effect on performance and satisfaction: A reconsideration of Wagner. *Academy of Management Review* 1995; 20: 276–278.
20. Sagie A. Employee participation and work outcomes: An end to the dispute? *Academy of Management Review* 1995; 20: 278–280.
21. Wanberg CR, Banas JT. Predictors and outcomes of openness to changes in a reorganizing workplace. *Journal of Applied Psychology* 2000; 85(1): 132–142. DOI: [10.1037//0021-9010.85.1.132](https://doi.org/10.1037//0021-9010.85.1.132).
22. Sagie A, Elizur D, Koslowsky M. Effect of participation in strategic and tactical decision on acceptance of planned change. *The Journal of Social Psychology*, 1990; 130: 459–465.
23. Sagie A, Elizur D, Koslowsky M. Decision type, participative decision making (PDM), and organizational behavior: An experimental simulation. *Human Performance* 1995; 8: 81–94.
24. Fixsen DL, Naoom SF, Blasé KA, et al. *Implementation Research: A synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231), 2005. Available online at <http://ctndisseminationslibrary.org/PDF/nirmonograph.pdf>. Accessed on March 24, 2013.
25. Havelock RG, Havelock MC. *Training for change agents*. Ann Arbor, MI: University of Michigan Institute for Social Research, 1973.
26. NIATx. *The NIATx Way: A step-by-step guide to running a successful change project*. Available online at <http://www.niatx.net/content/contentpage.aspx?NID=40>. Accessed on March 24, 2013.
27. Ovreteit J, Bate P, Cleary P, et al. Quality Collaboratives: Lessons from evaluation research. *Quality and Safety in Healthcare*, 2002; 11: 345–351.
28. Proctor E, Silmere H, Raghavan R, et al. Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administrative Policy in Mental Health* 2011; 38(2): 65–76. doi: [10.1007/s10488-010-0319-7](https://doi.org/10.1007/s10488-010-0319-7)
29. Deming WE. *Elementary Principles of the Statistical Control of Quality*, JUSE, 1950.
30. Miller WR, Yahne CE, Moyers TB, et al. A randomized trial of methods to help clinicians learn motivational interviewing. *Journal of Consulting & Clinical Psychology* 2004; 72(6): 1050–1062.
31. Davis DA, Thomson MA, Oxman AD, et al. Changing physician performance. A systematic review of the effect of continuing medical education strategies. *Journal of the American Medical Association* 1995; 274(9): 700–705. DOI: [10.1001/jama.1995.03530090032018](https://doi.org/10.1001/jama.1995.03530090032018).
32. McHugh RK, Barlow DH. The dissemination and implementation of evidence-based psychological treatments: A review of current efforts. *American Psychologist* 2010; 65(2): 73–84. DOI: [10.1037/a0018121](https://doi.org/10.1037/a0018121)
33. Chaple M, Sacks S, Melnick G, et al. Exploring the predictive validity of the DDCAT index. *Journal of Dual Diagnosis* 2013; 9(2): 171–178. DOI: [10.1080/15504263.2013.779128](https://doi.org/10.1080/15504263.2013.779128).
34. Minkoff K, Zweben J, Rosenthal R, et al. Development of service intensity criteria and program categories for individuals with co-occurring disorders. *Journal of Addictive Diseases* 2003; 22(Supplemental 1): 113–129.

35. Center for Practice Improvement (CPI). *Focus on Integrated Treatment (FIT) Initiative: Online training in treatment for co-occurring disorders*. New York, NY: New York State Psychiatric Institute at Columbia. Available online at <http://www.nyebpcenter.org/CPIInitiatives/FocusonIntegratedTreatmentFIT/tabid/186/Default.aspx>. Accessed on June 13, 2013.
36. Minkoff K, Zweben J, Rosenthal R, et al. Development of service intensity criteria and program categories for individuals with co-occurring disorders. *Journal of Addictive Diseases* 2004; 22(S1): 113–129. DOI: [10.1300/J069v22S01_08](https://doi.org/10.1300/J069v22S01_08)
37. H.R. 3590. *The Patient Protection and Affordable Care Act*. 111th Congress, 2nd Session, January 5, 2010, pp 1–903. Available online at <http://www.gpo.gov/fdsys/pkg/BILLS-111hr3590enr/pdf/BILLS-111hr3590enr.pdf>. Accessed on August 1, 2013.
38. McGovern MP, Urada D, Lambert-Harris C, et al. Development and initial feasibility of an organizational measure of behavioral health integration in medical settings. *Journal of Substance Abuse Treatment* 2012; 43: 402–409. DOI:[10.1016/j.jsat.2012.08.013](https://doi.org/10.1016/j.jsat.2012.08.013)