Implementing Integrated Services for Adults With Co-occurring Substance Use Disorders and Psychiatric Illnesses: A Research Review

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Objective: Over the last 10 years, researchers have been studying integrated mental health and substance abuse service implementations, contributing to the science of implementation. This article reviews the published research on organization-level implementation factors and summarizes the findings. **Methods:** To identify papers for review, the authors limited the search to all English-language, published, quantitative and/or qualitative research studies that address organization-level factors in integrated service implementation. They employed PubMed to search for papers. The reference lists in the reviewed articles and reviewer comments contributed additional articles that met the criteria. **Results:** The quantitative and qualitative investigations consistently note that integrated service implementation takes significant time and effort. Successful implementation requires active on-site leadership, management of staff turnover, and technical, financial, and political support from the larger administrative environment. **Conclusions:** The research can help future implementers anticipate and overcome common integrated services implementation challenges. (*Journal of Dual Diagnosis*, 7:150–161, 2011)

Keywords *co-occurring disorders, evidence-based practice, implementation, integrated treatment, leadership*

People frequently struggle with interwoven psychiatric and substance abuse difficulties (Clark, Power, Le Fauve, & Lopez, 2008; Kessler et al., 1996; Regier et al., 1990). When they seek care, their illness course is better if they receive services that are prepared to evaluate and treat the psychiatric and substance concerns in a seamless and integrated fashion (Dixon et al., 2010; Drake, O'Neal, & Wallach, 2008; Ziedonis et al., 2005). Despite growing awareness of the importance of these services, integrated programs are still not widely available (New Freedom Commission on Mental Health, 2003; Epstein, Barker, Vorburger, & Murtha, 2004).

Integrated services would be more prevalent if they were easier to implement (Drake & Bond, 2011). Throughout all of health care, moving research-supported practices into routine care settings is slow (Berwick, 2003) and difficult (Shojania & Grimshaw, 2005). The desire to speed

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up practice implementation has led to the study of the implementation process itself (Chambers, 2008; Proctor et al., 2009).

Co-occurring disorders services researchers are studying the process and outcomes of integrated program implementations, thereby contributing to implementation science. In this article, we review this research. By summarizing the findings we hope to support the work of agencies that would like to establish effective services for people living with co-occurring disorders.

METHODS

To identify papers for review, we sought all English-language, published, quantitative and/or qualitative research studies that address organization-level factors in integrated service implementation. The review focuses on organization-level studies of implementation after 2001, when broad efforts were made to disseminate and implement integrated services as an evidence-based practice (Drake, Essock, et al., 2001). We employed PubMed to search for papers, using the MeSH terms "Diagnosis, Dual (Psychiatry)," "Substance-related disorders/rehabilitation," "Community Mental Health Services/organization & administration," and "Substance Abuse Treatment Centers/organization & administration." The reference lists in the reviewed articles and reviewer comments contributed additional articles that met the criteria. This article does not review the actions of mental health authorities that are mentioned in some of the papers (i.e., Moser, DeLuca, Bond, & Rollins, 2004).

RESEARCH REVIEW

To study implementation, researchers must first define what it is that is being implemented and how implementation success will be measured. Relevant, meaningful, and measurable dimensions of implementation include practice fidelity, affordability, effectiveness, appropriateness, and penetration (how many people gain access to the practice; Proctor et al., 2009). Of these, fidelity is the main outcome that is stressed in the published integrated services literature. Fidelity scales measure how closely a practice adheres to the principles and procedures specified in an evidence-based practice model (Bond, Evans, Salyers, Williams, & Kim, 2000; Schoenwald et al., 2010). A high fidelity score indicates that a practice is in sync with or faithful to the desired researched practice.

The published integrated services implementation research relies on two approaches to fidelity measurement. Most of the available research has used the Integrated Dual Disorders Treatment (IDDT) Fidelity Scale (McHugo et al., 2007), which operationally measures a well-defined clinical practice, IDDT. Two studies rely on a second approach. They use a recently developed matching set of scales: the Dual Disorders Capability in Addiction Treatment (DDCAT) and Dual Disorders Capability in Mental Health Treatment (DDMHT) indexes (Gotham, Brown, Comaty, & McGovern 2007; McGovern, 2007). These scales measure capacity for integrated service along a number of dimensions in addiction treatment settings and mental health settings, respectively. A final published study asserts implementation success on the basis of close observation of the

integrating practices without using a formal measure (Brousselle, Lamothe, Sylvain, Foro, & Perreault, 2010).

IDDT Implementation Studies

IDDT is an integrated multidisciplinary team approach to care for adults with co-occurring substance use disorders and severe mental illnesses. The treatment program was developed out of experience with clinical programs that are effective for this population (Mueser, Noordsy, Drake, & Fox, 2003). IDDT offers a coordinated package of psychopharmacology, psychosocial interventions, and substance abuse counseling. Essential program elements include a comprehensive, long-term, stage-wise approach to treatment; assertive outreach; motivational interventions; and strategies and supports to help people learn to manage both illnesses and to achieve their functional goals (Drake, Essock, et al., 2001).

Most of the implementation research on IDDT has occurred as part of the National Implementing Evidence-Based Practices Project (EBP Project; Torrey, Lynde, & Gorman, 2005). In Phase I, the EBP Project developed an implementation model and implementation "toolkits" for five identified evidence-based practices, one of which was IDDT. The toolkits consist of a package of educational materials (films, pamphlets, written material including a workbook), a series of clinician trainings, and expert implementation consultation for a year. In Phase II, 53 community mental health centers across eight states piloted the implementation toolkits, using them to implement one of the five evidence-based practices. Eleven programs in three states implemented IDDT as part of the EBP Project.

To learn from the evidence-based practice implementation process, a team of researchers studied the implementations using quantitative and qualitative methods. The quantitative measures were the scores on the evidence-based practice fidelity scales: Implementing the evidence-based practice with high fidelity was the clear, articulated aim. The qualitative study involved ethnographic research using data collected through monthly site visits in which researchers sat in on meetings, observed the administrative and care processes, and periodically interviewed key stakeholders. The researchers took extensive notes that were entered into a qualitative database and then coded, using a framework developed for the project. Over the course of the project more than 27,000 observations were noted and coded.

The EBP Project's quantitative findings (McHugo et al., 2007) showed that while most of the psychosocial practices had steep fidelity gains in the first year and made little improvement after that time, IDDT made slow but steady gains throughout the 2 years. Programs were still making headway at the end of the project. At the end of 2 years, however, only 2 of 11 (18%) IDDT programs met the high fidelity threshold, 6 sites (56%) had moderate fidelity, and 3 sites (26%) had low fidelity. The 18% high fidelity implementation for IDDT was the lowest for any of the evidence-based practices in the study; the overall percentage of EBP sites in the study that met the high fidelity threshold was 55%.

There are several possibilities for the apparent difficulty of implementing high-fidelity IDDT programs. The lack of calibration between the different evidence-based practice fidelity measures may account for some or all of this finding: The IDDT fidelity scale stresses evidence of specific clinical skills such as motivational interviewing, whereas the supported employment and assertive community treatment fidelity scales stress administrative structure, such as clinician/consumer

ratios, which might be easier to achieve quickly. An alternative explanation relates to the inherent challenge of implementing IDDT, which requires programs to blend the clinical skills, cultures, and financing of previously separate mental health and substance use disorder programming. Coordinated change is required at the organization, provider, and environment level.

Three qualitative analyses and one case study of the EBP Project IDDT implementations explore the IDDT implementations in detail. Brunette et al. (2008) reviewed the research team's ethnographic observations and used standard qualitative analysis methods to distill the most salient facilitators of and barriers to implementation at each of the 11 sites. The data revealed clear patterns. Sites that implemented successfully had in common effective mid-level leaders, active engagement of consultant-trainers, and close supervision from knowledgeable staff. Barriers to implementation were overwhelming staff turnover and concerns about finances.

The study found that effective leadership was strikingly important. The successful sites assigned mid-level leaders and gave them authority to make required changes. The leaders set the tone with a positive view of IDDT, seeing obstacles as challenges to be overcome. Like all leaders, they had many other competing demands for their attention but kept focused on the implementation as a priority. The successful leaders translated their positive attitude about IDDT into action: They moved ahead relentlessly making the administrative changes that were required for the new practice. Their work included hiring and firing staff, changing the structure of clinical supervision, developing new policies, and putting in place new procedures such as substance abuse screening. Some successful implementations were led by an administrative leader paired with a skilled clinician.

The programs that implemented successfully made use of the consultant-trainer resource. The site leaders planned out their implementation strategy with the consultant, sought their expertise to overcome implementation barriers, and utilized their depth of knowledge to train key staff and reinforce IDDT principles in clinical supervision sessions. The consultant-trainer brought an outside perspective and stability to the implementation.

Clinical supervision was an essential element of quality implementations. In successful sites, leaders mastered the service-specific knowledge and skills to provide ongoing staff training and supervision to others. Where this did not happen, the implementations were unable to achieve high fidelity.

Staff turnover was common in the study and could either facilitate or impede implementation. Some leaders were able to use it to move out people who were unable or unwilling to offer the desired model of care and to hire and train capable clinicians for the new program. But high turnover levels were difficult because they absorbed so much time and energy and left the remaining staff with overwhelming numbers of people on their caseloads. Chronic, relentless turnover tended to interfere with implementation, although some programs overcame it by redesigning the process of hiring, supervising, and supporting new staff.

Finally, the study by Brunette et al. (2008) stressed the role of finances. Financial concerns presented an ongoing barrier to IDDT implementation when the financial implications of training, supervision, and caseload reduction were perceived as untenable by program leaders. Programs that successfully implemented IDDT were able to find funding to sustain the programs over time.

Two other research teams independently analyzed subsets of the same EBP Project IDDT qualitative data. Rapp et al. (2009) investigated the three IDDT implementations in one state. Their analysis underscored the power that site-level administrative and clinical leadership have

to help or hinder implementation. Passive "laissez faire" administrative leaders who did not set objectives or hold staff accountable did not get the practice implemented and clinical leaders who did not support the new practice undercut IDDT implementations. Moser et al. (2004) studied the three IDDT implementations in a different state. They found that an effective leader can make rapid progress but, like others, they note that resistant mid-level leaders interfere with implementation. They stress that IDDT requires clinical sophistication and that leaders cannot effectively implement the practice without mastery of the knowledge base and skills.

Wieder and Kruszynski (2007) illustrate the impact of staff selection in implementation through a case example from one site in the EBP Project. At the site, the team leader and frontline staff were assigned (rather than recruited) to the new IDDT program, were not committed to the philosophy of care, and did not master the skills. Fidelity measurement, which demonstrated lack of implementation progress, led agency leaders to restart the team. They recruited a motivated leader and staff who enthusiastically mastered the skills. The program experienced clinical success with some challenging patients and fidelity improvement that continued after the conclusion of the study. The authors stress the importance of motivated staff, agency leadership commitment to IDDT, expert clinical supervision, adequate administrative time for the program leader, and outside technical assistance in the form of fidelity measurement and training capacity.

Woltmann and Whitley (2007) studied the specific impact of staff turnover in the EBP Project IDDT implementations. This research group independently evaluated the qualitative data, tracked turnovers, and linked events to fidelity ratings. Four of the 11 IDDT programs had almost complete staff turnover in the first year of implementation. Rapid turnover was stressful for those staff who remained. Sudden turnover tended to be followed by an abrupt drop in either fidelity or the number of people served by the team (penetration). Programs that were able to tap into strong training structures (such as state-supported technical assistance) and ones that replaced departing staff with trained and motivated clinicians moved their implementations forward. In an expanded study looking at the EBP Project implementations of all five psychosocial evidence-based practices at all sites, Woltmann et al. (2008) found that staff turnover was significant for all evidence-based practices and did not differ between practices. The 24-month turnover rate was inversely related to 24-month fidelity scores. The qualitative data showed that at lower levels turnover could often be used constructively to enhance implementation but when it became very high ($>100\%$) it was almost always seen as a hindrance to implementation.

Swain, Whitley, McHugo, and Drake (2009) investigated whether implemented evidence-based practices were sustained after the EBP Project ended. For all evidence-based practices, 80% of the implemented practices remained in place 2 years after the original 2-year implementation study was complete. For IDDT programs, 9 out of the 11 (81.2%) programs were sustained. Factors that helped programs to be sustained were (a) state support for the practice, including direct financing and technical assistance (training, consultation, and fidelity reviews with feedback); (b) practice proficiency supported by ongoing attention to training and supervision; (c) practice evaluation with regular measurement of fidelity, patient outcome, and practice penetration; and (d) committed agency leadership that believed in the practice and provided space, training, financial support, and a vocal mandate for the practice. Programs that did not sustain their practices cited lack of funding and high levels of staff turnover as reasons for discontinuing.

Chandler (2009) reports on an effort to use the toolkits that were developed, piloted, and revised in the EBP Project (available at http://store.samhsa.gov/product/SMA08-4367) to implement IDDT in eight sites in California. Six of the eight sites were able to establish IDDT after 18

to 36 months. Three of the sites reached the high fidelity threshold and another was very close. Successful implementation was predicted by the Organizational Readiness for Change scale; the two sites with the lowest scores were the ones that did not implement after their trainings. More detailed information on the implementations was collected through interviews with county mental health leaders 3 years after the project started. The study stresses the disruptive nature of turnover in implementing a practice that requires sustained effort; the constructive power of motivated, skilled, and knowledgeable leaders; and the negative impact of uninterested leaders. Successful sites institutionalized IDDT through establishing individual and group supervision and redesigning clinical processes (such as paperwork and meeting structures) to reinforce the practice.

Van Wamel, Kroon, and van Rooijen (2009) describe their effort to implement IDDT at five sites in the Netherlands using the IDDT toolkit from the EBP Project and training and consultation from an experienced technical assistance center in the United States. They measured fidelity at baseline, 1 year, and 2 years and had scores that were very consistent with those achieved by the EBP Project sites. Most of the fidelity progress took place in the first year, but gains continued into the second. On average, the sites moved from low to moderate fidelity with most implementing sites approaching high implementation. The study did not include a systematic qualitative component but the authors note that their experience is consistent with the findings of Brunette's group (2008), reviewed above. They conclude that IDDT implementation is difficult, but possible.

Capacity for Integrated Care

The development of the DDCAT and DDMHT indexes came out of a recognition that implementing a program that is as intensive and comprehensive as IDDT is not possible or appropriate in all settings where mental health and addiction services are offered (Brousselle, Lamothe, Mercier, & Perreault, 2007; Gotham, Claus, Selig, & Homer, 2007; McGovern, Matzkin, & Girard, 2007). The indexes assess programs and categorize them as Addiction or Mental Health Services Only, Dual Diagnosis Capable, or Dual Diagnosis Enhanced. The indexes include 35 items across seven dimensions (program structure, program milieu, assessment, treatment, continuity of care, staffing, and training; Gotham et al., 2010). Ratings take place during half-day program site visits. The indexes are reliable, valid, and sensitive to change (Gotham et al., 2010; McGovern et al., 2007). Addiction treatment agencies with higher capability have been found to be serving people with more severe psychiatric illness (Mangrum, 2007; McGovern, 2007).

Two recently published studies sought to learn about co-occurring services implementation using these indexes. In the first study, a modest amount of funds were used to implement standardized screening and assessment, support training, and pay for some services that enhance co-occurring disorders treatment. Gotham et al. (2010) used the DDCAT and DDMHT indexes to measure 14 agencies at baseline and 2 years post-intervention. Organizational readiness for change and structural characteristics of the agencies were also assessed prior to the intervention, then correlated with change in the scores of the capacity indexes.

The study found that capacity for co-occurring services did significantly increase over the course of the study, particularly in the dimensions that were specifically funded: client assessment and staff training. The organizational readiness for change assessment found that programs with more program and training needs and/or pressures to make programmatic changes made more

gains in co-occurring service capacity. The most significant organizational characteristic finding was that smaller agency size was associated with greater change in co-occurring service capacity (Gotham et al., 2010).

The second study, by McGovern, Lambert-Harris, McHugo, Giard, and Mangrum (2011) spanned six states gathering baseline and 18-month follow-up DDCAT and DDMHT index assessments on 86 programs (52 addiction and 34 mental health). Changes in the assessment scores were correlated with an Implementation Index that was developed for the study and filled out by program directors at the time of the follow-up assessment. The Implementation Index has six subcategories: (a) organizational and contextual factors, (b) use of implementation strategies, (c) program culture, (d) staffing issues, (e) training, and (f) evaluation methods.

The primary finding was that the mental health and addiction programs improved measurably over 18 months, both in terms of their scores and in terms of their categorical shift from single service–capable to dual disorders–capable. Improvement in DDCAT and DDMHT index scores were associated with the Implementation Index summary score for both addiction and mental health programs. DDCAT index improvements in addiction programs were significantly correlated with Implementation Index subcategory scores in the areas of (a) organizational and contextual factors (policy changes, financial support, certification changes), (b) use of implementation strategies (such as using a change plan or change committee, designating a change leader, using an external consultant/coach), and (c) use of evaluation and feedback methods (benchmark measures, quality improvement process targets, patient-level outcomes, and patient satisfaction). DDMHT index improvements in mental health programs were only significantly correlated with Implementation Index subcategory score of evaluation and feedback. The authors note that three subcategories were not independently associated with program improvements: (a) program culture (degree of buy-in across leadership and staff), (b) staff changes (turnover or new hires), and (c) training (McGovern et al., 2011).

A Study Using Close Observation to Gauge Implementation Success

Brousselle et al. (2010) used in-depth qualitative methods to study two contrasting service integration efforts in Canada. They compared a new clinic formed jointly by the mental health and substance abuse treatment programs ("joint venture") with a contractual agreement between an addiction program and a mental health program designed to improve patient flow between the two services ("strategic alliance"). Although no fidelity measurements were reported, the integrations were very closely observed and considered successful in that the care was systemically integrated. The study concludes that despite contrasting paths to service integration, success in both efforts was largely the result of (a) strong clinical leadership; (b) training, case discussions, and the development of explicit provider communication strategies; and (c) structured institutional support (including time) for these activities.

DISCUSSION

This review presents the published implementation research on 24 IDDT implementations, 100 agencies seeking enhanced dual disorder capability, and 2 contrasting service integration efforts.

Before these studies were conducted, advice for agencies wishing to implement integrated services was based on implementation studies from general health care and the gathered wisdom of mental health administrators, clinicians, advocates, and services researchers with psychosocial intervention implementation experience (Drake, Goldman, et al., 2001; Torrey et al., 2001, 2002). The integrated services implementation studies reviewed in this article move the field from educated impressions to research findings.

Confidence in review conclusions is limited by the non-independence of many of the studies and heightened by the consistency of the findings. Eight of the thirteen reviewed papers flow from the EBP Project and, although the research teams analyzed the data independently, the studies are all based on the same 11 implementations. The five other independent studies, however, replicate or support the main EBP Project study findings. Specific themes repeatedly emerge.

Time Frame and Complexity of Implementation

The studies show that, regardless of how implementation success is measured, programs can make substantial headway implementing integrated services for people with co-occurring disorders. Eventual success, however, may take years: longer than the time frame of implementing many other psychosocial interventions. The long time frame appears to be related to the complexity of implementing integrated services, a process that includes culture change, skill development, staff shifts, clinical process changes, and outcomes monitoring. The clinical complexity of integrated services is an implementation barrier (Drake & Bond, 2011). The timeframe and complexity of implementation may account for the other core themes that are highlighted by the research: the importance of effective and persistent site leadership, staff turnover management, and organizational support.

Site-Level Leadership

All the studies stress that successful implementation requires a committed results-oriented on-site leader. Leaders who had or developed a sophisticated understanding of integrated services, prioritized implementation, and took action were able to affect measurable change. Leaders who did not understand the desired practice, were not committed, or were passive did not make headway. Effective leaders built integrated practice into the fabric of the daily clinic work so that the new way of working became institutionalized.

Staff Turnover

Successful implementation requires management of staff turnover. Turnover is a particular issue in integrated services implementation because lengthy implementations give time for a significant base rate of turnover and the change demands of implementation drive some additional people to leave. The research highlights that significant and sometimes dramatic staff turnover can and should be expected. Attention to recruiting, training, and supervising can minimize disruption and sometimes transform turnover into implementation gains.

Organizational Support

The research shows that support from the broader administrative environment steadies implementations and helps integrated services sustain over time. Larger agency and mental health authority infrastructure promotes dual disorders services by requiring results from on-site leaders, assuring funding streams, incentivizing quality, and supplying technical support in the form of training, supervision, fidelity measurement, and feedback. The on-site leader's complex and sometimes stressful work is easier over time with clear direction and support from the surrounding environment. In addition, implementations are more likely to weather the departure of an effective site leader if the larger system has committed resources to long-term program success.

Other Implementation Literature

The themes that emerge from the analyses of the EBP Project organization-level qualitative data for Supported Employment (Marshall, Rapp, Becker, & Bond, 2008), Assertive Community Treatment (Mancini et al., 2009), and Illness Management and Recovery (Whitley, Gingerich, Lutz, & Mueser, 2009) largely overlap with those found for integrated services. The studies all point to the central importance of leaders who actively address required structural and staffing changes. The studies of the other practices also stress staff selection: staff members who are philosophically opposed to the care model obstruct change, do not appear to gain from training, and tend to leave the agency, whereas invested staff members help the implementation process and learn from training. The IDDT and Assertive Community Treatment studies stress the need for sustained organizational support more than the studies of other practices and business skills are identified as particularly helpful for Supported Employment staff, but overall, the core implementation factors that support success tend to be very similar.

Some practice change approaches that are commonly used in healthcare (Grol & Grimshaw, 2003) did not surface in the integrated treatment studies. Patient and family demand for the services was not harnessed as a driver of change, sites did not use total quality management to structure the change process, and decision support tools were not utilized. While these approaches have potential, they have not yet been shown to support integrated service implementation at the organizational level.

Conclusions

The growing body of research on integrating mental health and substance abuse services documents that implementation is possible but that the process is complex and takes time. Based on this research, agencies that wish to implement integrated services should focus on finding an active site leader who will be committed to overcoming obstacles to change, measuring and feeding back outcomes, and building the practice into the daily flow of care. Agencies should expect and be prepared for significant staff turnover, which might include the simultaneous departure of several staff members as real change is instituted. Support for the site leader from the broader environment of the agency and care system helps to secure the success and institutionalization of the change.

ACKNOWLEDGMENTS

DISCLOSURES

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