Treating Dual Diagnosis

An Analysis of Two Methods for Improving Care

Prepared for: Our Lady of the Lake Regional Medical Center

In partial fulfillment of Mrs. Susan Eller's English 303 Technical Writing Class

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February 15, 2013

Abstract

The purpose of this analytical research report is to make an informed recommendation to Our Lady of the Lake Regional Medical Center of the best method to improve treatment of dual diagnosis patients. To make this recommendation, I analyzed two promising treatment options for dual diagnosis patients: Integrated Cognitive Behavioral Therapy and Integrated Dual Diagnosis Treatment. Based on the criteria of ease of implementation, effectiveness and cost, I was able to come to an informed decision about which method is best for Our Lady of the Lake at this time.

I used both primary and secondary research to analyze these options. The primary research I conducted consisted of an interview with Maria Klette-Ketchum, an experienced Licensed Clinical Social Worker who practices Cognitive Behavioral Therapy in the Mandeville, LA area. An array of secondary sources were used to help me gain knowledge and make an informed decision on the issue. These sources include but are not limited to experimental studies from peer reviewed academic journals and reports from government agencies.

In analyzing the options, I found Integrated Cognitive Behavioral Therapy to be significantly easier to implement. The reason behind this difference is the funding and regulatory barriers surrounding Integrated Dual Diagnosis Treatment. Each treatment option is supported by experimental data on its effectiveness, but Integrated Cognitive Behavioral Therapy has a wider breadth of research backing it. Finally, Integrated Dual Diagnosis Treatment is significantly more expensive to implement. Minimum costs for each option differ by more than $200,000.

Due to this information, I recommend Our Lady of the Lake Regional Medical Center implements Integrated Cognitive Behavioral Therapy for its dual diagnosis patients. This option is significantly easier to implement, more credibly effective and much more financially feasible.

P.O. Box 3194
Ruston, LA 71272
February 15, 2013

Mr. Donald Daigle, Board of Directors Chair
Our Lady of the Lake Regional Medical Center
5000 Hennessy Blvd.
Baton Rouge, LA 70808

Dear Mr. Daigle:

Enclosed within this letter is my analytical research recommendation report on improving treatment for dual diagnosis patients. The options I compared for this report are Integrated Cognitive Behavioral Therapy (ICBT) and Integrated Dual Diagnosis Treatment (IDDT).

To evaluate these treatment options, I used the criteria of ease of implementation, effectiveness and cost. After thorough analysis, I determined the best option for Our Lady of the Lake Regional Medical Center to implement at this time is Integrated Cognitive Behavioral Therapy. ICBT will be significantly easier for Our Lady of the Lake to implement. This therapeutic approach is proven to be effective on dual diagnosis patients with several different mental illnesses and substance use disorders. It is also much more cost effective than IDDT.

I am incredibly appreciative of the opportunity to research treatment options for dual diagnosis and to present the Board of Directors with my recommendation. I look forward to working with you in the future and hope you will consult me if you have any further questions.

Sincerely,

Adam Christopher Ellsworth

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Introduction

In a relatively new scientific field such as psychology, there are bound to be gaps in what is demanded of the field and what it can offer. Developments are being made in leaps and bounds by researchers and practitioners as they adapt to meet the needs of the communities they serve. Still, there are glaring holes in effective treatment for some patients. One such gap is in management of dual diagnosis patients. These patients can suffer from an array of serious mental disorders such as *Posttraumatic Stress Disorder (PTSD)*[1], *Bipolar Disorder*, *Obsessive Compulsive Disorder (OCD)*, *Social Anxiety Disorder* and/or any other debilitating psychological disorder.

While these disorders alone often require intensive treatment and/or medication, dual diagnosis patients also suffer from a substance disorder which complicates treatment. Much like the variety of disorders, patients may be addicted to substances such as alcohol, heroine, marijuana, cocaine and/or an array of other substances. The Diagnostic and Statistical Manual (DSM) divides substance disorders into two categories: abuse and dependence. Substance abuse is not contingent on addiction, but considers the harmful effects of the substance. Substance dependence is used interchangeably with addiction and describes compulsive use of a drug (National Institute on Drug Abuse, 2010).

While typically communities involving only the overlap between two distinct populations are relatively small, the same cannot be said for dual diagnosis. Substance use disorders and mental illnesses are distinctly different; however they are also uniquely linked to each other. This link is the reason dual diagnosis of substance use disorders and mental illnesses, also called "comorbidity," is very common in the United States. The National Institute on Drug Abuse (2010) reports that "persons diagnosed with mood or anxiety disorders are about twice as likely to suffer also from a drug use disorder (abuse or dependence) compared with respondents in general." The NIDA (2010) also states that mood disorders are seen to increase the susceptibility to drug addiction, as opposed to casual drug use, leading to comorbidity. As seen in Figure 1 on the next page, people suffering from dual diagnosis constitute a large number of all those patients with Substance Use Disorders (SUD).

[1] with the exception of parenthetical citations, italics denote terms defined in the glossary

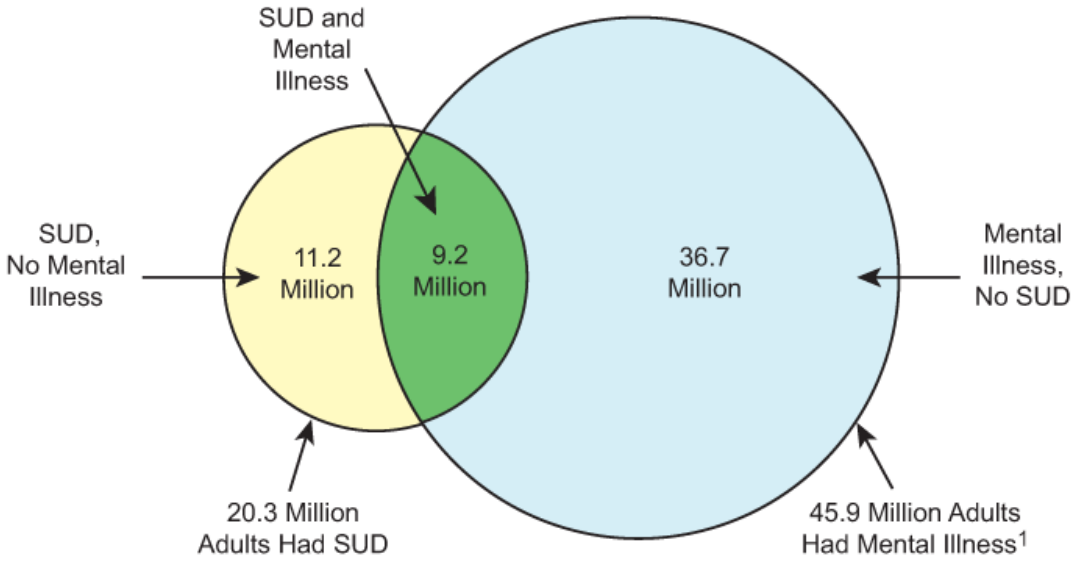

Figure 1: Past year substance abuse among adults aged 18 or older, by any mental illness: 2010

Source: U.S. Department of Health and Human Services. Results from the 2010 National Survey on Drug Use and Health: Mental Health Findings, 2012. Web.

It cannot be denied that a link between the two disorders exist when 9.2 million people or 45.1 percent of people suffering from a substance use disorder had a comorbid mental illness. To put this number in context, the same report declares "among adults without a substance use disorder, 17.6 percent had mental illness" (U. S. Department of Health and Human Services, 2012). Clearly, people with a mental illness are at a far greater risk of developing a drug problem than the rest of the population. Also, it is important to consider that 9.2 million dual diagnosis patients constitutes twenty percent of everyone with a mental illness. If it can be said that clinical psychology's primary audience is people suffering from mental illness, then by rule, one fifth of the field's target audience is struggling with this complication.

Being such a common problem within the field, it stands to reason that it must be something researchers and practitioners have been focusing on heavily for a quite a while now. This presumed focus should then logically lead to effective treatment of dual diagnosis patients. Unfortunately neither of those statements is entirely true. While it is a topic of research, it has not dominated the field as the numbers would suggest, and currently health care options for dual diagnosis patients lack specificity and effectiveness. Patients often must seek treatment for substance abuse before they can receive care for their mental illness. In other cases, treatment simply ignores the addiction and continues without adjustment. Since the substance abuse seems to make the patients' mental illnesses more "persistent, severe and resistant to treatment" (National Institute on Drug Abuse, 2010), treatment as usual is rarely effective. Inefficacy of treatment leaves dual diagnosis patients with "a statistically greater propensity for violence, medication

noncompliance, and failure to respond to treatment than consumers with just substance abuse or a mental illness" (National Alliance on Mental Illness, 2003).

In this report, I will define and analyze two possible methods of improving Dual Diagnosis treatment. These treatments are Integrated Dual Diagnosis Treatment, which takes a more administrative approach, and Integrated Cognitive Behavioral Therapy, which focuses more on the approach mental health care practitioners take with patients. Through the course of this report I will compare and contrast these solutions based on the criteria of ease of implementation, effectiveness and cost. By the end of this report I will make an informed recommendation about the course of action Our Lady of the Lake Regional Medical Center should take for treating their dual diagnosis patients.

Solutions

Integrated Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is a large field in modern psychology. It is used by therapists to help patients cope with everything from eating disorders to divorce to phobias. The world renowned Mayo Clinic states that CBT seeks to make the patient aware of "inaccurate or negative thinking… [allowing the patient] to view challenging situations more clearly and respond to them in a more effective way" (Mayo Clinic staff, 2010). In the last decade or so, researchers have been working to adapt CBT to treat more complex clinical problems. One such problem is Dual Diagnosis.

Integrated Cognitive Behavioral Therapy (ICBT) takes the principals of CBT and formats the approach to fit the specific situation. This specificity is one of the advantages ICBT has over treatment as usual of dual diagnosis patients. It means that the procedure for performing ICBT will be different for a patient with PTSD and heroin addiction than it would be for a patient suffering from bipolar disorder and marijuana abuse. Technically, ICBT is actually a large umbrella term for a general approach to the problem. It is this broad approach which allows for flexibility that other programs do not have, though.

The structure of Integrated Cognitive Behavioral Therapy is much like general CBT, which means that the therapy is manual based, including several phases which address the patient's problems specifically and systematically (Cornelius et. al, 2011). While the number and definition of each phase changes based on the specific disorders being treated, McGovern, Lambert-Harris, Alterman, Xie & Meier (2011) state in their study on ICBT that the model for PTSD and substance use is made up of eight steps, including a crisis and relapse prevention plan, anxiety reduction skills and *cognitive restructuring*.

The program typically integrates factors which tailor specifically to each disorder, such as "Cognitive Behavior Therapy (CBT) for treatment of major depressive disorder and for treatment of the alcohol use disorder, and Motivation Enhancement Therapy (MET) for treatment of the alcohol use disorder" (Cornelius et. al, 2011). The therapy can be administered in typical therapeutic fashion with forty-five to fifty minute sessions once a week and can be administered by most mental health practitioners (Association for Behavioral and Cognitive Therapy, 2010).

Integrated Dual Diagnosis Treatment

In contrast to the ICBT's emphasis on therapeutic approach, Integrated Dual Diagnosis Treatment (IDDT) puts a much heavier focus on the administrative approach facilities take when dealing with dual diagnosis patients. This method requires a facility such as Our Lady of the Lake Regional Medical Center to create a specific department to handle

dual diagnosis cases. The theory behind IDDT is not so much changing therapeutic approaches, but rather making substance abuse treatment and mental illness treatment work together more cohesively. To decrease conflicts between the two programs, IDDT creates a program where "the same health professionals [are] working in one setting, providing appropriate treatment for both mental health and substance abuse in a coordinated fashion" (National Alliance on Mental Illness, 2003).

This program requires cooperation of several different fields of health care. In a working model, a IDDT department would provide "pharmacological (medication), psychological, educational, and social interventions to address the needs of consumers and their family members" (*"Integrated dual disorder treatment"*). These interventions can be given in stages consisting of "engagement, building motivation, active treatment and relapse prevention" (Craig et. al, 2011). It can also be adjusted as needed for patients' specific needs, but the general format remains the same.

One of the most important aspects of IDDT is the education of the entire staff working in the department. While each staff member may have their specific specialties, it is important for effective integrated treatment that each staff member has training in "basic drug and alcohol awareness…comprehensive assessment, motivational strategies, management of resistance, problem solving, active treatment options, and relapse prevention" (Craig et. al, 2011). It is also crucial to the effectiveness of the program that the department has an active outreach program (National Alliance on Mental Illness, 2003). Essentially, the department must be flexible to the consumer's needs and not force them to comply with rigid program demands. The program is likely to suffer if practitioners do not actively try to build relationships with patients and if the program does not offer things like at home sessions. The main, crucial focus of IDDT, though, is comprehensive substance disorder and mental illness, meaning that it is absolutely vital for the department to be a cohesive group with effective leadership.

Criteria

Ease of implementation

The most important criteria in my analysis of the two approaches to dual diagnosis treatment is ease of implementation. Hospitals are already filled with red tape and regulations on top of having to operate efficiently and effectively on a daily basis. Therefore, it was important for me in making a recommendation for Our Lady of the Lake Regional Medical Center that the solution I recommend does not add needless difficulty to the daily operation of the hospital. I judged ease of implementation on how many new positions and which kinds of positions need to be created to effectively implement the recommendation, whether or not there is state or federal regulatory problems with implementation, how much training current staff would need to receive, how available a field expert would be and how many departments within the hospital would need to cooperate for effective implementation.

Effectiveness

Obviously, the program Our Lady of the Lake implements needs to effectively handle the problem of treating dual diagnosis patients. There would be no point in going through the expenses and time needed to implement a program if it is not certain that it will be any better than the current approach. This reason is why effectiveness is the second most important criteria in my analysis. Effectiveness will be judged through analysis of data from studies done on each practice. Not only the results, but how often the results have been shown and how much research there is behind the program will be considered to determine effectiveness.

Cost

The cost of a program is always important to consider before a decision is made. It is especially important in a facility such as a hospital in which every penny needs to be used effectively. I also understand that this consideration has become even more important in recent months and years for Our Lady of the Lake. The state government's cuts to the health care budget have left hospitals even tighter financially than usual. So while I still believe cost is the least important of the three criteria I am using, it will still be a very significant factor in my recommendation. Timing is very important when it comes to cost, so if one option has an edge in the other two criteria but has significant drawbacks in cost, now may not be the right time to implement such a program. I will be calculating cost roughly through recommendations about positions which would have to be added for each option and using median salaries for those positions. I also take into consideration the cost of training seminars and how many times these sessions would have to be repeated.

Methods

Primary Research

I interviewed Maria Klette-Ketchum, a Licensed Clinical Social Worker (LCSW) who has been providing Cognitive Behavioral Therapy to the Mandeville, LA area for over thirty years. Ms. Klette-Ketchum frequently works with dual diagnosis patients, although not all of them involve SUD. Her years in the field and experience with CBT and dual diagnosis patients make her an excellent resource for evaluating the effectiveness of ICBT on dual diagnosis patients, as well as how easily this approach might be implemented in a hospital setting. In our email interview, we discussed the benefits and problems of CBT and ICBT. She provided me with firsthand knowledge of this approach.

Secondary Research

Many academic journals contain recent studies on each of these types of treatment. Since dual diagnosis treatment is such a widespread problem, reaching into both addiction and psychiatric research, a variety of sources exist. Such journals include Psychiatric Services, The American Journal of Psychiatry, Behavioral and Cognitive Therapy and Journal of Dual Diagnosis. Academic journals contain evidence from experimental research which supports each solution. These studies have both in depth explanations of how the treatments were implemented and whether or not they were more effective than treatment as usual.

Also, since the federal government does a great deal of research and statistics on both drug addiction and mental health, they have several sources related to the issue. These sources include the National Institute on Drug Abuse, the National Alliance on Mental Health and the U. S. Department of Health and Human Services. Government agencies provide more statistical than experimental data. The afore mentioned agencies provide information about how widespread dual diagnosis is in the United States, as well as information on mental illness and drug abuse in general.

Results

Integrated Cognitive Behavioral Therapy

Ease of Implementation: Most mental health workers employed by Our Lady of the Lake are likely already licensed to provide Cognitive Behavioral Therapy and by extension, Integrated Cognitive Behavioral Therapy. In fact, Maria Klette-Ketchum, a Licensed Clinical Social Worker (LCSW) who offers CBT in the Mandeville area, says that many hospitals are already using a Cognitive Behavioral approach to treating dual diagnosis patients and that the transition would be very easy for those hospitals who are not (personal communication, February 10, 2013). The Association for Behavioral and Cognitive Therapies (2010) states that psychologists, LCSWs, psychiatrists and professional counselors are all able to administer Cognitive Behavioral Therapy. While ICBT is certainly accessible by current hospital staff, it does still require specialized training. Several experiments, including the one performed by Cornelius et. al (2011), used therapists who had years of field experience with CBT to oversee treatment. Our Lady of the Lake may not already have someone with these qualifications.

While the experiment performed by McGovern et. al (2012) used therapists who had no specific field experience with CBT and did not even necessarily have any counseling certification, it should be mentioned that the practitioners did have a "90 minute didactic training in both integrated cognitive behavioral therapy and individual addiction counseling approaches, and then were supervised in bi-weekly phone (individual) and monthly face-to-face (group) sessions" (McGovern et. al, 2012). So while it is possible to have staffs who are not completely experienced in CBT, it is necessary to have a supervisor who has experience in not only CBT but ICBT. A staff member with this specific experience and expertise is likely something that Our Lady of the Lake does not have, so, at the very least, there will need to be a hire of one doctoral level psychologist who has specific experience in ICBT.

There are no expected regulatory barriers with implementing ICBT since it is only a change in therapeutic approach. The only necessary policy changes in implementing an ICBT approach to dual diagnosis patients are hospital policies. The current board or governing body in charge of policy in the hospital can administer these policy changes in coordination with the new expert hire who will be overseeing the practice of ICBT in the hospital. Training for ICBT is amply available for all professional mental health workers. There are free seminars which are few and far between and there are also paid seminars put on by groups such as the Beck Institute for Cognitive Behavioral Therapies. However this institute is located in Philadelphia, and institutes like it are located in different areas across the United States, so the necessity of sending employees on business trips to attend the seminars becomes a barrier to effective training.

Effectiveness: Several studies on Integrated Cognitive Behavioral Therapy point to its effectiveness across multiple mental illnesses and multiple substance use disorders. The

results shown are promising, but not entirely conclusive because the studies also show certain areas where ICBT is not significantly more effective than treatment as usual. In a study conducted by Cornelius et. al on the treatment of comorbid alcoholism and *Major Depressive Disorder (MDD)* in adolescents, experimenters found that the group receiving ICBT showed significantly greater improvement in depressive symptoms than the control group receiving naturalistic treatment did. The study also showed at the two year follow up, there was significantly lower prevalence of alcohol dependency in the ICBT group than in the control group. For Cornelius et. al, Integrated Cognitive Behavioral Therapy consisted of manual based CBT and Motivation Enhancement Therapy (MET) and was referred to as CBT/MET. Their results show that ICBT has a *statistically significant* positive impact on the long term health of patients. They do, however, note that MDD and Alcohol Use Disorder in adolescents may not generalize to other groups of dual diagnosis patients and that their study was limited to outpatient treatment (Cornelius et. al, 2011).

Another study conducted by McGovern et. al focused on the effects of ICBT on dual diagnosis patients suffering from Post Traumatic Stress Disorder (PTSD) and Substance Use Disorders (SUD). This study found that ICBT had a lower retention rate of patients than individual addiction counseling. However, they also found that ICBT had a significantly greater effect on PTSD symptoms. In a follow up after the treatment, a higher percentage of participants from the ICBT group were no longer diagnosed with PTSD than from the individual addiction counseling group (McGovern et. al, 2012). As seen in figure two below, statistically significant differences were found in between the ICBT group and the control group in several PTSD symptom categories and in days of drug use.

	Treatment	Baseline	3 months	6 months	χ^2
CAPS total score	ICBT IAC	75.75(19.94) 84.10(22.57)	36.08(19.19) 52.60(21.86)	46.50(21.75) 49.75(28.64)	4.14*
CAPS B Re-experiencing	ICBT IAC	22.50(7.07) 24.86(8.45)	10.69(4.73) 16.10(7.03)	12.07(6.81) 14.38(8.55)	6.81**
CAPS D Arousal	ICBT IAC	23.25(8.68) 26.86(7.79)	11.85(9.61) 18.50(5.66)	17.29(6.72) 19.50(8.00)	4.75*
Drug Use (Days)	ICBT IAC	36.28(35.54) 37.59(10.36)	16.15(32.00) 25.70(17.01)	12.68(25.87) 26.24(16.14)	5.04*

Figure 2: Primary outcomes (n=53)

[1]Values are means and standard deviation;
[2]Values are given as number and percent;
***p<=.001; **p=.01; *p=.05
Note: ICBT = integrated cognitive behavioral therapy; IAC = individual addiction counseling; CAPS = Clinician Administered PTSD Scale

Source: Adapted from McGovern, M. P., Lambert-Harris, C., Alterman, A. I., Xie, H. & Meier, A. A randomized controlled trial comparing integrated cognitive behavioral

therapy versus individual addiction counseling for co-occurring substance use and posttraumatic stress disorders, 2011. Web.

This table shows the four significant differences found in the study conducted by McGovern et. al. In the Clinician Administered PTSD Scale (CAPS), ICBT was shown to be significantly more effective than individual addiction counseling for reducing PTSD symptoms. Furthermore, two subcategories of CAPS showed the same statistical significance. For example, ICBT improved the re-experiencing category of CAPS more effectively than individual alcohol counseling with a statistical significance level of p=.01.

McGovern et. al also state that ICBT was found to be as effective as individual addiction counseling in reducing substance use. In addition to these findings, the study reports that a subset of participants with more severe PTSD symptoms benefited even more from ICBT than the rest of the group. Patients with severe PTSD who participated in the ICBT group showed significantly greater reductions in substance use, PTSD symptoms and psychiatric symptoms than the individual addiction counseling group. While the experimenters note the effect on *external validity* their small sample size may have had, their results show that ICBT has promise with dual diagnosis patients suffering from PTSD (McGovern et. al, 2012).

Finally, a study was conducted by Barrowclough et. al using ICBT consisting of motivational interviewing, CBT and family interventions on patients with comorbid schizophrenia and SUD. This experiment showed that ICBT lowers *positive symptoms* in schizophrenia for dual diagnosis patients more effectively than routine treatment. While at a nine month follow up the difference in positive symptoms was not statistically significant, at a twelve month follow up, the difference was significant. Postive symptoms were measured on the Positive and Negative Symptoms Scale. The adjusted mean of the integrated group was 12.85 with a *standard error* of 0.94, versus an adjusted mean in the routine treatment group of 16.63 with a standard error of 1.00 [$F=7.43$, $df=1, 29$, $p<0.01$] (Barrowclough et. al, 2001). Effectiveness of treatment on patients' SUD as measured by days spent in relapse showed that ICBT was as effective as routine treatment. In contrast to the study by McGovern et. al, Barrowclough et. al saw 94% of their patients complete treatment, illustrating a good retention rate for ICBT (Barrowclough et. al, 2001).

It should be noted, however, that studies done with schizophrenia and ICBT may also use medication in treatment. Maria Klette-Ketchum, LCSW, notes that a fairly large flaw in CBT is that it does not effectively treat psychotic disorders such as schizophrenia. In these situations, medication is usually the most effective treatment and then perhaps CBT can be used on top of medication to help the medicated patient adjust to the world (Klette-Ketchum, M., personal communication, February 10, 2013).

Cost: A major cost involved in implementing ICBT is training current staff. Maria Klette-Ketchum reports that CBT training has prepared her for treating dual diagnosis patients (personal communication, February 10, 2013). Home certifications in Cognitive Behavioral Therapy for substance abuse are available from the National Association of

Cognitive Behavioral Therapists for $250 per course (*"Certified substance abuse"*). Such courses will teach necessary health care workers a CBT approach to substance abuse, preparing them to effectively administer ICBT to dual diagnosis patients. This approach, however, is a minimum training cost. More intensive training involves sending employees to seminars specifically for ICBT. Such seminars are offered by the Beck Institute for Cognitive Behavior Therapy and cost $1200 per participant (Beck Institute for Cognitive Behavior Therapy). Depending on how many workers Our Lady of the Lake decides to send to the seminar, the tuition costs may range from $2,400 to $6,000 for two to five workers.

However, travel expenses would also have to be added to this estimate. The Beck Institute is located in Bala Cynwyd, PA, a suburb of Philadelphia. According to Kayak.com, Plane tickets from Baton Rouge, LA to Philadelphia, PA for the April seminar average about $400 per person. Hotel rooms in Philadelphia average about $150 per person per night. A car rental for that time period averages around $80 (personal communication, 2013, February 10). Though these prices fluctuate over time, based on these estimates sending three employees to the April seminar would total a cost of about $5330 including tuition, flights, hotel and car rentals, but not including food. The benefits of this more expensive option is that the course is live and taught by doctorate level psychologists with expertise in CBT and the seminar actually covers dual diagnosis treatment, whereas the home certification does not.

An additional and non negotiable cost of implementing ICBT is the addition of a doctorate level psychologist with expertise in ICBT. This new hire must be willing to oversee the program and train health care workers when necessary. The Bureau of Labor Statistics (2012) reports that the median salary for a clinical psychologist is $68,640. Of course the salary may also fluctuate depending on who Our Lady of the Lake decides to hire and how negotiations end. Using this number and combining it with the cost of sending employees to a seminar, thorough and effective implementation of ICBT can be estimated to cost around $73,970 in the first year of implementation.

This estimate is fairly conservative, however, as it does not include the time employees would be in training or attending seminars. Institutional costs will undoubtedly be added to the figure given above, but as any new system is going to require time of employees, the estimate above encompasses most of the costs specific to ICBT. A review of salaries, wages, plans of implementation and Our Lady of the Lake policies would be necessary to give a more accurate figure. In the purpose of this analytical research report, however, the above figure is a reasonable benchmark to compare the option specific costs of each method.

Integrated Dual Diagnosis Treatment

Ease of Implementation: Several academic papers discuss the barriers in implementing Integrated Dual Diagnosis Treatment (IDDT). In one such paper, Isett et. al (2007) explain perhaps the largest difficulty in implementing IDDT – government regulations regarding mental health and substance abuse treatment. Specifically, this barrier arises in

"delivering integrated mental health and substance abuse treatment when different regulatory and administrative rules apply to distinct funding streams and there is a relative scarcity of substance abuse funding" (Isett et. al, 2007). In Our Lady of the Lake Regional Medical Center, as in the majority of hospitals across the country, different departments handle SUD and mental health disorders. So, while the strength of IDDT is the integration of these departments, this aspect is also a barrier because "huge fiscal incentives and strong political allies act to maintain the status quo" (Drake et. al, 2001).

It is also significant to note not all states have Medicaid and Medicare funding for SUD treatment and funding for mental health care varies between states (Drake et. al, 2001). This issue presents a sizeable barrier to overcome because as Brunette et. al (2008) reported in their study, funding from Medicaid and Medicare is what made IDDT implementation financially feasible for many programs. In Minnesota, these barriers had to be overcome by the state legislature passing a bill to "provide direction…to support the development of a mental and chemical health system to standardize integrated co-occurring services for persons with mental illness and substance use" (Minnesota Department of Human Services, 2013).

Unfortunately, these major government level barriers are not the only ones to be overcome in implementing IDDT. The treatment is not likely to be implemented successfully if the supervisor does not have expert knowledge in IDDT. This person would have to have a department head level position and be able to oversee implantation and training. Since the program is not widely used, finding an expert clinical leader to oversee implementation might be hard to do. Drake et. al (2001) state that this barrier is specifically due to educational institutions neglecting to teach IDDT to psychology graduate students. In addition, implementation requires effective, enthusiastic and committed leadership. Finally, training of staff is not a onetime event. Since most mental health employees do not already have training in many of the vital aspects of IDDT, it is best to provide ongoing training for the entire group of department employees (Brunette et. al, 2008).

Effectiveness: Unfortunately, though Integrated Dual Diagnosis Treatment is categorized as an evidence based practice, much more research is conducted about the implementation of the program than its effectiveness on the patients. The research which does exist about the efficacy of IDDT is generally positive, however. In a study conducted by Craig et. al (2011), IDDT was shown to have no statistically significant difference between treatment as usual in reduction of drug and alcohol use. So, while IDDT was not more effective at managing SUD than treatment as usual, it was not less effective either. In treatment psychiatric symptoms, however, IDDT did show statistically significant improvements over treatment as usual. The study was conducted using schizophrenic patients with a comorbid SUD. Integrated Dual Diagnosis Treatment was more effective in lowering psychotic, anxiety and depressive symptoms in these patients than treatment as usual (Craig et. al, 2011).

In another study conducted on comorbid schizophrenic and SUD patients, Morrens et. al (2011) found that IDDT did produce a significantly better improvement in drug use than

treatment as usual. This study also found that IDDT was more effective for psychiatric symptoms. Patients in the IDDT group improved in positive, negative and general symptoms, whereas patients in the control group only made improvements in *negative symptoms* and general symptoms. The major finding reported in this study, however, is in the overall functioning of participants. In different surveys designed to capture functioning of schizophrenic patients and addicts "the IDDT group showed great improvements on almost all measures of overall functioning, whereas no such effects were observed in the TAU group on any of the assessments" (Morrens et. al, 2011). These numbers can be seen in figure three below to demonstrate the statistical significance of these differences.

Overall Functioning	IDDT	TAU	IDDT vs. TAU
SQLS-psych	16.080***	<1	4.955*
SQLS-energy	<1	<1	<1
SQLS-sympt	11.350***	<1	4.815*
SQLS-total	13.498***	<1	4.413*
ASI-health	7.783**	<1	<1
ASI-job	2.674	1.851	4.677*
ASI-law	7.083**	<1	<1
ASI-family	23.209***	<1	3.796*

Figure 3: Results of the 3-month versus baseline within-group and between-group analyses for the IDDT and TAU groups for all measures (F values)

SQLS = Schizophrenia Quality of Life Scale (energy = motivation and energy; psych = *psychosocial* functioning; sympt = symptoms and side effects). + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: Adapted from Morrens, M., Dewilde, B., Sabbe, B., Dom, G., De Cuyper, R., & Moggi, F. Treatment outcomes of an integrated residential programme for patients with schizophrenia and substance use disorder, 2011. Web.

As seen in the chart above, Morrens et. al were able to find statistically significant differences in overall functioning of patients with schizophrenia and SUD. The F values in the chart from analysis of variance (ANOVA) testing clearly show in several ways that IDDT is more effective for this category than treatment as usual. The first way to look at these numbers is the within group comparison in the middle two columns labeled IDDT and TAU. There are statistically significant improvements in all but two overall functioning categories for the IDDT group. In comparison, there are no statistically significant signs of improvement in the TAU group. The second way of looking at these numbers is presented in the third column and gives statistical significance to the

comparison between the two groups. As shown, all but three categories indicated statistical significance in the differences between IDDT and TAU, proving that IDDT was in fact more effective at improving overall functioning in this study.

Cost: For Integrated Dual Diagnosis Treatment, the cost is closely linked to the ease of implementation. The barriers coming from state government chiefly concern funding. Isett et. al (2007) report that government funding is the key for successful implementation of IDDT, specifically from Medicaid. Once the program has started, Craig et. al (2011) state that per person costs for IDDT do not differ in a statistically significant manner from treatment as usual. However, the significant costs do not come after, but during start up. Since multiple studies, including Craig et. al (2011), report the critical nature of having an expert overseeing the program throughout its entirety, this new position will be part of the costs for implementing IDDT.

This position cannot simply be a clinician, though. Since IDDT involves both substance abuse workers and mental health care workers, a new department would likely have to be created to treat dual diagnosis patients with this program. The creation of a new department would make this position a department head position, which according to David Kirschman's (2008) report on hospital department chair salaries would be paid a salary of at least $225,000. This figure also does not include bonuses and incentive payments which are typical for upper level positions.

There will undoubtedly be costs associated with creating a new department. A major cost of this new department will be the space needed to house it. This cost will not be able to be estimated until Our Lady of the lake decides how to acquire the space. The hospital may need to vacate a part of an existing department or rent space at a different location. Consequently, the costs attached to this can range from simply moving in costs to the cost of renting space.

Another of these costs is the hiring of new employees. Now, it may be feasible for Our Lady of the Lake to simply take a proportionate amount of willing employees from both the mental health department and the substance abuse department and transfer them to the new IDDT department. Since these other departments would see decreasing numbers in patient admittance, it would make sense to shift an appropriate number of employees between departments to end up with an adequate mix of substance abuse and mental health professionals in the IDDT department.

However, hiring employees such as administrative assistants is unavoidable. Median wage for administrative assistants in a hospital environment is fifteen dollars an hour which comes out to be $54,750 per year if one administrative assistant is present for ten hours per day (Diploma Guide). Training for IDDT is typically carried out in house and put together by the director. This training and other costs of implementation are extremely dependent on how Our Lady of the Lake decides to implement an IDDT department and program. The cost of the salaries of necessary added positions alone, however, totals $279,750.

Conclusions

Ease of Implementation: Mostly due to the state policy barriers in implementing an IDDT program, ICBT is significantly less difficult to implement in a hospital setting. The only major barriers for implementing ICBT are training the staff and hiring a mid-level psychologist with experience in ICBT. Even in training, many mental health workers at Our Lady of the Lake may already have experience and/or training in CBT, making training much easier. The most significant barrier in training is the expenses of sending clinicians to ICBT seminars.

The barriers for implementing IDDT are much harder to overcome. Since these barriers include government regulations which may restrict the combining of mental health care with substance abuse treatment, even if Our Lady of the Lake Regional Medical Center chooses to implement IDDT, you may not be able to do so before working with the state government to find a way past these regulations. Additionally, the example of Minnesota demonstrates that it may be necessary for legislation to be passed before IDDT can be implemented, which could take a great deal of time.

Another factor to consider in this category is the availability of a program expert. Both options require an expert in the field to oversee implementation and practice. However, since CBT is a widely taught therapeutic practice, counselors and psychologists such as Maria Klette-Ketchum who have experience treating dual diagnosis patients with CBT are not hard to find. Also since as Ms. Klette-Ketchum says, CBT training encompasses dual diagnosis treatment, it would not be hard to find someone who focuses specifically on ICBT and dual diagnosis treatment (personal communication, February 10, 2013). In contrast, as Drake et. al (2001) state, psychologists with IDDT training are few and far between because universities do not usually include this approach in their curriculum. All these factors point to ICBT being significantly easier for Our Lady of the Lake to implement.

Effectiveness: Each option is considered an evidence based practice for treating dual diagnosis patients, meaning there have been scientific experiments conducted to examine the effectiveness of each program. However, ICBT is supported by a much wider breadth of data than IDDT is. For example, both studies pointed to in examining the effectiveness of IDDT deal with comorbid schizophrenia and SUD. This concentration is not to due to any slant in researching on my part. These types of studies were simply the research which was available to support IDDT.

Since dual diagnosis constitutes a range of mental illnesses, it is important for the evidence supporting each program to have the same breadth that the condition has. This diversity is not found with IDDT, but it is seen clearly with ICBT. The studies represented earlier supporting the effectiveness of ICBT deal with PTSD, MDD and schizophrenia. Clearly there are many more disorders that dual diagnosis patients suffer

from, but looking at the samples of research presented in this report, it is clear that ICBT is supported by a wider breadth of evidence than IDDT is.

Inspecting the available evidence, however, each treatment option does demonstrate effectiveness on dual diagnosis patients. It is ambiguous as to which option is more effective since there are no studies comparing the two side by side. However, the study by Morrens et. al (2011) suggests that IDDT is highly effective for schizophrenic patients with a SUD. The other study by Isett et. al (2007) also points to the effectiveness of IDDT. ICBT is also positively supported by evidence. In each study the treatment was shown to be more effective in an array of areas for patients with MDD, PTSD and schizophrenia. However, Maria Klette-Ketchum's statement that ICBT is not typically the most effective method for *psychotic* patients points out gaps in the efficacy of ICBT. Despite this gap in effectiveness, the experimental studies conducted all show statistically significant improvements made by ICBT over control treatments.

Based on the evidence, I conclude that each treatment is adequately effective. Neither treatment would be a detriment to effective treatment of dual diagnosis patients at Our Lady of the Lake Regional Medical Center. Additionally, scientific data supports the conclusion that each treatment would be an improvement over treatment as usual in at least some areas. Since both options are proven to be effective, the strength of the argument for each program should be contingent on which option has more thorough and appropriate research supporting it. In this case, ICBT clearly has the advantage. Our Lady of the Lake certainly should not implement a program lacking in support. ICBT minimizes the risk of failure better because it has been proven to be effective for multiple disorders. Therefore, the logical conclusion is that ICBT is more clearly effective than IDDT.

Cost: If Our Lady of the Lake is going to implement either one of these programs, hiring an expert to oversee implementation and treatment is unavoidable. However, ICBT does not require the creation of a new department, so that expert would be in a mid level position and not a department head position as with IDDT. This distinction is the main factor making ICBT more cost effective than IDDT. A minimum of $279,750 for salaries of created positions alone in implementing IDDT is significantly higher than the minimum estimated cost of $73,970 for implementing ICBT.

While other factors cannot be quantified until a specific plan of implementation is laid out, the creation of an entire department for IDDT is bound to carry more expenses than changing the therapeutic approach for dual diagnosis patients to ICBT. Aside from the salary of a mid level psychologist, the major costs for implementing ICBT lie in training existing staff. As discussed, those costs would involve travel expenses and tuition; however as seen in the $200,000+ difference in costs, this cost does not begin to make ICBT as expensive as IDDT. Our Lady of the Lake could even send employees to training seminars multiple times per year and the costs would still not equal the expenses of IDDT.

Recommendation

Based on analysis of ICBT and IDDT by the criteria of ease of implementation, effectiveness and cost, I am able to recommend that Our Lady of the Lake Regional Medical Center implements an Integrated Cognitive Behavioral Therapy approach to treating its dual diagnosis patients. ICBT is clearly easier to implement and more cost effective than IDDT. While both programs are effective, ICBT is better supported than IDDT, minimizing the risk of the program's failure.

As seen in the evidence, implementing ICBT will allow Our Lady of the Lake Regional Medical Center to more effectively treat dual diagnosis patients, while not putting too much of a burden on hospital staff or finances. I am confident in concluding that ICBT will help Our Lady of the Lake carry out its mission of helping those communities most in need (Our Lady of the Lake Regional Medical Center). Dual Diagnosis patients certainly constitute an underserved and needy population. ICBT is a feasible approach to improving Our Lady of the Lake's treatment of this community which makes up twenty percent of all people suffering from a mental illness (U. S. Department of Health and Human Services, 2012).

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Glossary

Bipolar Disorder: A mood disorder characterized by alternating periods of depression and mania. [i]

Cognitive restructuring: a process for modifying faulty beliefs and the negative emotions they produce, in order to develop realistic beliefs and self acceptance.[ii]

External Validity: The extent to which clinical research studies apply to broader populations. A research study has external validity if its results can be generalized to the larger population.[ii]

Major Depressive Disorder: A mood disorder characterized by intense feelings of depression over an extended time, without the manic high phase of bipolar depression.[i]

Negative symptoms: in abnormal psychology, particularly with reference to schizophrenia, deficits in functioning which reveal the absence of expected behaviors, for instance, flat affect and limited speech.[ii]

Obsessive Compulsive Disorder (OCD): A mental disorder characterized by obsessions-recurrent thoughts, images, or impulses which recur or persist despite efforts to suppress them-and compulsions-repetitive, purposeful acts performed according to certain rules or in a ritualized manner.[i]

Positive Symptoms: behaviors related to a mental disorder which do not occur in healthy persons; for example, hallucinations in schizophrenia.[iii]

Posttraumatic Stress Disorder (PTSD): An anxiety disorder characterized by the persistent re-experience of traumatic events through distressing recollections, dreams, hallucinations, or dissociative flashbacks; develops in response to rapes, life-threatening events, severe injuries, and natural disasters.[i]

Psychosocial: the psychological and/or social aspects of health, disease, treatment, and/or rehabilitation.[ii]

Psychotic: a person afflicted by any major mental disorder which involves loss of contact with reality, usually including delusions and/or hallucinations.[ii]

Social Anxiety Disorder: a chronic mental health condition where everyday interactions cause irrational anxiety, fear, self-consciousness and embarrassment.[iv]

Standard Error (SE): The Standard Error of a random variable is a measure of how far it is likely to be from its expected value; or its scatter in repeated experiments. The SE of a random variable Y is defined to be $SE(Y) = [E((Y - E(Y))^2)]^{1/2}$. In other words, the standard error is the square-root of the expected squared difference between the random variable and its expected value. The SE of a random variable is analogous to the Standard Deviation of a list.[v]

Statistical significance: A difference between experimental groups or conditions which would have occurred by chance less than an accepted criterion; in psychology, the criterion most often used is a probability of less than 5 times out of 100, or $p < .05$.[i]

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[i] **Source:** American Psychological Association. Glossary of psychological terms, 2002. Web.
[ii] **Source:** Agency for Healthcare Research and Quality. Glossary of terms, n.d. Web.
[iii] **Source:** ITS Tutorial School. Psychology dictionary and glossary for students, 2012. Web.
[iv] **Source:** Mayo Clinic. Social anxiety disorder, 2011. Web.
[v] **Source:** University of California – Berkley. Glossary of Statistical Terms, 2013. Web.