

# COCAINE-ABUSING METHADONE PATIENTS: CAN COPEs LEAD TO AN APPROPRIATE INTERVENTION?

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Providing evidence-based practice is an evolving skill that uses current and relevant literature to guide practice with client populations. A critical component of evidence-based practice requires a clinician to evaluate and refine individual practice around the needs of a specific, identified population. This article describes and illustrates the use of a tool, Client-Orientated, Practical, Evidence-Search Questions (COPEs), created by Leonard Gibbs (2003) to aide practitioners in evaluating the effectiveness of their practice. Using the author's personal fieldwork experience and evidenced-based literature, this article outlines the process needed to formulate, research, and implement a specific, evidence-based COPEs question.

Social workers encounter diverse populations that present a broad array of issues and concerns. Regardless of the training and skills that social workers receive, little can fully prepare them for the upcoming challenges they will encounter in practice. Social workers, therefore, must develop the skills necessary to allow them to quickly and efficiently locate evidence-based literature that can serve as a reference during a challenging and unusual situation. Using the author's personal fieldwork experience and evidenced-based literature, this article outlines the process needed to formulate, research, and implement a specific, evidence-based question.

After defining the research question, the article draws on 2 years of fieldwork experience to describe populations served during that time. This description elucidates the context of the current research. An extensive literature review discusses the effectiveness of interventions with the studied population, identifies challenges, and suggests possible alternative interventions. The goal of the review is to identify an intervention that best serves the author's client population while selecting measures to determine the intervention's effectiveness.

## CLIENT-DRIVEN RESEARCH QUESTION

Practitioners and clinicians may encounter the need to modify an existing intervention to answer a specific question related to a client's need or welfare. Leonard Gibbs (2003) advocates the use of "Client-Orientated, Practical, Evidence-Search" (COPEs) questions (p. 57). Gibbs contends that an effective COPEs question should have several key components specific to the client, intervention, and proposed outcome. The question identifies the specific client, problem, intervention, and action hypothesized to create the desired change. To determine the intervention's effectiveness, a contrasting intervention, typically standard treatment, is identified and compared to the new form of treatment.<sup>1</sup> Finally, the hypothesized result or accomplishment is stated. These steps form the COPEs question. As a result of the author's fieldwork, this article poses the following COPEs question. If cocaine-using, methadone-maintained patients incorporate node-link mapping into their individual and group sessions or receive treatment as usual, which will result in a decrease in urinalyses that indicate the presence of cocaine?<sup>2</sup>

## POPULATION AND AGENCY DESCRIPTION

The author formulated the COPEs question for this article while working with methadone-maintained patients from two nonprofit agencies located in a large Midwestern city. A majority of the client population is African American and between the ages of 35 and 50. Most respondents reside in areas of the city with low socioeconomic status. The author's interactions with clients and the treatment staff suggest that the majority of this population is burdened with an undiagnosed dual disorder; furthermore, a large percentage of this population is struggling with a coaddiction, specifically with addiction to cocaine or crack cocaine and heroin.

The author's search for an effective intervention with cocaine-using methadone patients began in the U.S. Department of Health and Human Services' Treatment Improvement Protocol (TIP) series manuals (Center for Substance Abuse Treatment 1994, 2005).<sup>3</sup> The manuals are consulted in preparing for interactions with clients and assist clinicians in searches for population-specific practice methods. For the current article, the manuals were used to identify methods of treating a cocaine-using methadone population. These methods include psychoeducation, family involvement, contingency management (CM), relapse prevention, psychotherapy, cognitive and behavioral therapies (CBT), and self-help programs. Unfortunately, the manuals do not

elaborate on specific interventions' uses. There is no guidance informing the practitioner about how CBT or relapse prevention are used with this article's population. Specifically, one manual (Center for Substance Abuse Treatment, 1994) acknowledges the crucial challenge of identifying an intervention that addresses combined addiction to both heroin and cocaine. It states that successful interventions with cocaine abusers may not be as efficient with the cocaine-using methadone population. Similarly, interventions effective with a heroin-using population may fail to achieve the same results within a cocaine-using methadone population. Both manuals (Center for Substance Abuse Treatment, 1994, 2005) fail to identify an intervention effective for treating the studied population of coaddicted clients. They also lack easily accessible suggestions, references, and resources for clinician consultation. Regardless of whether clinicians possess the ability to identify, modify, and elaborate on the manual's suggested interventions, such adaptations must be made if interventions are to be effective for the clients considered in this article.

Another distinguishing feature of the TIP manuals (Center for Substance Abuse Treatment, 1994, 2005) is the absence of information concerning the efficiency, validity, and effectiveness of the suggested interventions. For example, there is no discussion of the interventions' applicability to specific populations or service environments. In the absence of an established, evidence-based intervention for clients coaddicted to cocaine and heroin, and lacking data on the effectiveness of those interventions identified for other service settings, the author began to examine ways to modify and adapt interventions.

## LITERATURE REVIEW

### *Methadone Maintenance: Whom Does It Serve?*

Previous research indicates that methadone maintenance is effective in reducing illicit opiate use, risk of exposure to HIV/AIDS, and crime in areas with high drug use, ultimately creating a healthier and safer environment for the community (Gollnisch, 1997; Sees et al., 2000; Avants and Margolin, 2004; Krantz and Mehler, 2004; Center for Substance Abuse Treatment, 2005). A national study cited by Mori Krantz and Philip Mehler (2004) finds that illicit heroin use among heroin-dependent patients participating in a methadone maintenance treatment (MMT) program decreased from 89 percent to 28 percent (Krantz and Mehler, 2004). Other studies also report decreases in drug use and criminal activity among heroin addicts participating in MMT (Sees et al., 2000). According to the National Institutes of Health (1997), 941 references support MMT as effective for opiate dependence. Krantz and

Mehler add, “[MMT] appears to offer the greatest public health benefits” (2004, p. 277). Some researchers (Kleinman, Lukoff, and Kail, 1977; Fischer et al., 2005) argue, however, that a key variable is missing in many of these studies: the recovering addicts.

Benedikt Fischer and associates (2005) provide a critical evaluation of MMT, finding that many of the studies on and outcome measures of MMT focus on benefits to society and communities while ignoring the actual needs and goals of the individuals using the services. Furthermore, Fischer and associates claim many of the studies proclaiming the effectiveness of MMT have flawed design techniques and evaluation tools. They acknowledge that previous researchers examined these studies and credit an earlier work (Kleinman, Lukoff, and Kail, 1977) that identified similar design and evaluation flaws in MMT studies. The design and evaluation concerns highlighted by Paula Kleinman and colleagues (1977) and Benedikt Fischer and associates (2005) are both relevant and essential, but examination of these flaws is beyond the current article’s scope. A key component of the arguments, however, warrants a brief discussion.

After thoroughly investigating the research designs and evaluations of several MMT effectiveness studies that report decreases in illicit drug use, Benedikt Fischer and associates (2005) note that those studies rarely include outcome measures for the patients who originally enrolled in the methadone programs but dropped out before study’s completion. The patient dropouts were not included in the study’s final numbers and, therefore, the results only examined MMT’s effectiveness with patients who remained for the study’s entirety.

As Fischer and associates point out, this methodology likely produces flawed results, since the patients dropped from those studies are often the people most in need of treatment and interventions. In contrast to those incomplete earlier studies, the current article focuses specifically on cocaine-abusing methadone-maintained patients who drop out of treatment. While it is understood and acknowledged that a co-occurring addiction is not the only reason that patients leave MMT, the high prevalence of cocaine use demands attention.

## METHADONE AND COCAINE

Many studies document high rates of cocaine use among methadone-maintained patients (Foote et al., 1994; Dansereau et al., 1996; Gollnisch, 1997; Simpson, Dansereau, and Joe, 1997; Broome, Simpson, and Joe, 2001; Magura et al., 2002). Similar research finds that cocaine use negates some of the beneficial

public health aspects derived from MMT (Foote et al., 1994; Gollnisch, 1997; Broome et al., 2001; Magura et al., 2002). Previous research also attempts to summarize appropriate interventions (Saunders, Wilkinson, and Allsop, 1991; Center for Substance Abuse Treatment, 1994, 2005; Haug et al., 2005) and examine the efficacy of others. Some of the studied interventions include relapse prevention (Carroll, 1996), CBT, and CM (Rawson et al., 2002; Epstein et al., 2003). Other works also attempt to modify existing interventions (Dansereau et al., 1996; Simpson et al., 1997; Boyd et al., 1998; Magura et al., 2002; Avants and Margolin, 2004; Stopka et al., 2004).

Several studies report that CM intervention is highly successful in decreasing the frequency with which MMT patients test positive for cocaine use in urinalyses (Foote et al., 1994; Simpson, Dansereau, and Joe, 1997; Simpson, Joe, et al., 1997; Magura et al., 2002; Rawson et al., 2002; Epstein et al., 2003).<sup>4</sup> These studies indicate that patients were more likely to produce a clean urine drop when they received incentives, such as bus cards, cash, and vouchers, during the initial months of treatment. These effects, however, diminished over time, and there was no significant difference between groups receiving CM and those receiving a standard form of treatment (Rawson et al., 2002; Epstein et al., 2003).

When employed with MMT patients, CBT is another intervention method that is found to be successful in producing long-term abstinence from illicit substances (Foote et al., 1994; Simpson, Dansereau, and Joe, 1997; Simpson, Joe, et al., 1997; Magura et al., 2002; Rawson et al., 2002; Epstein et al., 2003).<sup>5</sup> However, Jeffrey Foote and colleagues (1994) caution that results are slow and several months are usually required before a clean urinalysis is observed; measurable success may take a year or more.

Studies by David Epstein and associates (2003) and Richard Rawson and colleagues (2002) examine the outcomes of CM and CBT interventions, considering how patients fare in each program. The works also consider how patients fare when both programs are combined. Both studies hypothesized that the group receiving the two treatments would show a greater decrease in positive cocaine urinalyses than that observed for the groups receiving only CM or CBT, respectively. The outcomes of the two studies were similar to others mentioned previously in this article. However, Epstein and associates (2003) and Rawson and colleagues (2002) failed to find that the combination of CM with CBT treatment produced a change in results; joining the two interventions into one treatment produced no significant change in outcomes. Rawson and colleagues (2002) suggest that patients may increasingly produce negative urinalyses over time, but only if the two interventions are provided successively, rather than concurrently.

Although using CM as an intervention has proven effective in studies, clinicians question whether the intervention is practical because producing monetary incentives requires the agency to make a financial commitment (Foote et al., 1994; Simpson, Dansereau, and Joe, 1997). Consequently, researchers began searching for alternatives to CM interventions that nonetheless incorporate CBT's emphasis on long-term abstinence. In order to enable clinicians to target "addictive behaviors from a multidimensional perspective" (Gollnisch, 1997, p. 362), it is necessary to form an eclectic and diverse model that demonstrates realistic and attainable goals for agencies, clinicians, and patients.

In searching for guides to aid practitioners in substance abuse treatment, the author identified several sources that have been deemed effective by their respective developers and outside researchers (e.g., McAuliffe and Albert, 1992; Velasquez et al., 2001). Since most of the research in these works is highly specialized and focused, the sources may prove to have limited practical value, as agencies would be unable to replicate the treatments or have difficulty doing so. Successful models often require months of intensive services and prolonged commitment from staff as well as patients. For example, many of these models include individual and group sessions that meet several times a week.

In the search to locate interventions created specifically for methadone populations and the agencies that serve them, the author was particularly interested in research on methods to enhance patient engagement and satisfaction in treatment. Although Motivational Interviewing (Miller and Rollnick, 2002) and the Transtheoretical Model (DiClemente, 2003) are excellent tools for engagement, they are not interventions. Several intriguing interventions propose unique and creative ways to engage patients. Some identified methods include the use of diaries (Leigh, Gillmore, and Morrison, 1998; Stopka et al., 2004), self-monitoring techniques (Boutelle et al., 1999; Craske and Tsao, 1999; Saelens and McGrath, 2003), timeline follow-back techniques (Brown et al., 1998; Wennberg and Bohman, 1998), and life-lines (Boyd et al., 1998). Unfortunately, however, none of these provides an evidence-based intervention specifically for methadone patients.

### *Three Promising Strategies*

After this extensive search for data and analyses on interventions specifically designed for the target population, the work of three research centers emerged as relevant. Researchers at the National Development and Research Institutes (NDRI) proposed an enhanced form of methadone treatment for the cocaine-using population observed in many methadone clinics (Foote et al., 1994;

Magura et al., 2002). The underlying technique incorporates a CBT philosophy but freely modifies the intervention to fit the targeted methadone population. In this enhanced form of the intervention, the patients attend 3 group sessions a week and meet weekly with an individual counselor. Patients also receive medical care, dental care, assistance in locating housing, and help in finding employment opportunities. In contrast, the standard form of treatment does not provide housing or employment assistance. Patients do not receive dental services. They receive only annual medical reviews, attend 2 group sessions a month, and visit with their counselor once a month (Foote et al., 1994; Magura et al., 2002).

When this enhanced method was compared to standard methadone treatment, the researchers found out that patients rate the enhanced treatment higher. They also report that they are more likely to seek out medical and psychiatric services, along with other forms of public assistance (Foote et al., 1994; Magura et al., 2002). The studies find that the enhanced intervention is associated with a decrease in positive cocaine urinalyses, but the changes were not statistically significant (Foote et al., 1994; Magura et al., 2002). The researchers acknowledge the complexity of the lives of cocaine-using methadone patients and assert that the enhanced form of treatment aides in addressing many patient concerns. The author agrees that the enhanced form is multifaceted, however, but rejected the intervention because it imposes significant commitments of time, effort, and staff resources.

Researchers at Yale University have produced another interesting intervention (Avants and Margolin, 2004). Similar to the NDRI method, the Yale technique is also based on CBT theory but includes modifications. The intervention is premised in the assertion that much of the theory and application of substance abuse treatment fails to acknowledge and incorporate the patient's spiritual side into the recovery process (Avants and Margolin, 2004). Describing the method as "convergence of cognitive and Buddhist psychology" (2004, p. 253), Kelly Avants and Arthur Margolin (2004) acknowledge that there are many different forms of spirituality. They assert that their intervention, the Development of Spiritual Self-Schema (3-S) therapy, allows for a plurality of beliefs.<sup>6</sup> The author did not select 3-S therapy as an appropriate intervention because, as with the NDRI's enhanced model, the 3-S therapy requires a lengthy and intensive commitment from the agency, counselors, and patients.

The current investigation identified a third possible intervention. Developed by researchers at Texas Christian University's (TCU) Institute of Behavioral Research (IBR), Node-Link Mapping (NLM) is designed specifically for cocaine-using methadone patients (Dansereau, Joe, and Simpson, 1993).

The method has been evaluated in the evidence-based literature (e.g., Simpson, Dansereau, and Joe, 1997; Magura et al., 2002; Center for Substance Abuse Treatment, 2005). It uses CBT philosophy, and may be incorporated into both individual as well as group sessions for methadone patients. Researchers find that NLM greatly enhances patients' involvement, satisfaction, and success with treatment (Dansereau, Joe, and Simpson, 1993; Dansereau et al., 1996; Simpson, Joe, et al., 1997), enhancing communication and understanding between therapist and clients who do not share the same racial or cultural background (Dansereau et al., 1996). The author ultimately selected NLM as the highlighted intervention for this article.<sup>7</sup>

### *Node-Link Mapping*

Sandra Dees and Donald Dansereau (2000) assert that NLM is an effective communication tool that allows patients and clinicians to organize, clarify, and visualize their discussions. Using a notebook, whiteboard, or piece of paper, the clinician or patient diagrams the discussion, as one might create a family tree or flow chart. Nodes represent ideas or events, and links connect nodes to illustrate the relationships and commonalities among the nodes. The final product is a map that depicts the discussion. The map is then used to enhance the individual or group sessions by identifying and maintaining focal points during sessions (Dees and Dansereau, 2000).

## CLINICAL INTERVENTION

As previous research suggests (Foote et al., 1994; Magura et al., 2002), many of the author's methadone patients who continue to use cocaine are at high risk for negative outcomes. Such outcomes may, in turn, diminish mental health services and social support. Exposing these patients to NLM may generate involvement and a sense of ownership in sessions.

Many patients in this group are cognitively challenged or impaired due to an undiagnosed learning disorder, academic failure, lack of school attendance, physical trauma to the head, or drug-induced trauma to the brain. While the setting and treatment parameters preclude testing clients for such impairments, NLM may enable the practitioner to connect with patients at a level they can understand (Dansereau et al., 1996; Pitre, Dansereau, and Joe, 1996).

In practice, NLM can elucidate a specific idea or item of discussion, providing improved client-counselor understanding. Two interactions with patients illustrate the method's merits. A formerly homeless woman struggles to locate a place where she and her daughter can live. The shelter where she



and her daughter were living provided numerous opportunities. In addition, the patient was scheduled for general equivalency diploma (GED) training, job assistance, and a variety of other supports. As part of her session, the practitioner began to map these events, creating a visual aid that clarified and illustrated her story.

The agency served as the starting node and assigned the shelter, GED training, and so on to other nodes. The author and patient then connected the nodes in relation to each other. For example, the map connected the agency to the shelter and the GED training site, because both referrals came from the agency. Her daughter's school, their community activities, and her job assistance site were linked to the client's shelter because of the shelter's referral. The clinical breakthrough occurred while viewing the map, when she announced, "I would have never had all of these opportunities if I was still selling drugs with my brother."<sup>8</sup> Throughout the time she remained homeless, the patient struggled with the choice of whether to sell drugs. She resisted. The patient credits God with her decision not to return to drug dealing.

The author questions whether the patient would have expressed her personal realization without the map. The patient and author may have spent a lot of time trying to understand various details, continually explaining words and definitions. The map acted as a visual tool, allowing patient and practitioner to see and share the same understanding of the client's current situation.

The second example of this intervention comes from a group session. A discussion of triggers slowly began to evolve into a cognitive dissonance session. Many patients were describing the pipes used to smoke crack and how memories of substance abuse created feelings of happiness. When the group was asked to define what it means to be happy, members immediately responded as if they were reprimanded. Several members of the group then related the opinion that pipes should be considered as bad. Another person announced, "[The pipes] sure are beautiful, though." As everyone laughed, the author pointed out that these are expected thoughts; people begin using drugs because they enjoy the sensation. The author explained how the patients' behaviors had trained their minds to associate the pipe with happy thoughts, even though they now recognize the pipe as a negative stimulus. They were encouraged to retrain their minds.

Because this discussion confused the members of the group, node-link mapping was used to illustrate the practitioner's points. After viewing the map, the patients were still confused by the practitioner's encouragement to retrain their minds. They could not conceptualize the mind's role in changing behaviors. While still focusing on the details of the map, the author diverted the focus

of the group from addiction to rehabilitation. By employing the example of a person whose brain injury prevented routine functioning, the author enabled participants to grasp the elimination of extensive barriers only overcome after extensive physical and mental therapy. The diagram helped participants to understand the author's analogy between extensive therapy and retraining their minds' tendency to link happiness with a crack pipe.

In this example, the discussion and illustrations evoked excitement and involvement. The group's increased energy and participation levels created positive and productive changes.

#### EVALUATION OF INTERVENTION

The author will not rely on mapping as the only form of intervention but will use it to enhance many of the individual and group sessions. The standard form of treatment at the author's agency utilizes Motivational Interviewing (Miller and Rollnick, 2002). Interventions are also designed and applied based on each patient's stage of change (DiClemente, 2003). Each patient is expected to consistently attend individual and group sessions. Attendance requirements are determined by the patient's current stage of change.

The effectiveness of node-link interventions can be evaluated in 3 ways. The easiest method is through observation of patients' urinalysis reports. For several months in late 2005, all patients in this study were tested for cocaine use. The availability of this form of evaluation may be limited however, as some agencies perform only monthly urinalyses, preventing practitioners from observing random and sporadic cocaine use.

Another possible method of evaluation, although not as reliable or easily interpreted as the urinalysis, is monitoring attendance at individual and group sessions. Methadone patients who use cocaine do not attend sessions reliably or consistently (Foote et al., 1994; Simpson, Dansereau, and Joe, 1997; Magura et al., 2002). While the current patients have attended sporadically, improved attendance by year's end may be a positive effect of the intervention.

Caseload comparisons are 1 final method of evaluation. Patients became part of the author's caseload when transferred there from his supervisor's caseload. While the supervisor was their counselor, these patients received the same treatment as the supervisor's other patients. Comparing the outcomes of the author's caseload with those of his supervisor may identify intervention effects. So too, it may be revealing to compare urinalysis reports across the 2 client groups.

## CONCLUSION

This article identifies a tremendous barrier that social workers continually encounter on an ongoing basis: the need to locate intervention models, ascertain their effectiveness, and implement effective, evidence-based practice. This form of research, like the practice of social work, is a skill that must be gradually developed and refined. Leonard Gibbs (2003) provides a simple and convenient tool in the COPES question. The question facilitates an effective search and locates appropriate literature to support interventions for a specific client or client population. Lastly, and quite significantly, the COPES method further enhances the small rewards social workers experience when contributing to a change in a person's life.

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## NOTES

<sup>1</sup> Treatment as usual (TAU), or standard form of treatment, is used throughout this article to describe the established and common form of practice used at similar agencies. This article does not presume that TAU should be viewed as ineffective but rather as the basis for a comparison or measure to gauge a new intervention's effectiveness.

<sup>2</sup> A detailed description of Node-link mapping (NLM) is presented later in this article. The NLM method is a communication tool that can be used in individual as well as group sessions. The terms "positive cocaine urinalysis" and "negative cocaine urinalysis" appear throughout this article. Urinalysis testing is a tool employed by many agencies to determine if patients are consuming illicit substances while in substance abuse treatment. A positive result means an illicit substance has been detected in the patient's toxicology report and a negative result means that illicit substances were not detected in the patient's toxicology report.

<sup>3</sup> For a complete list of search terms, databases, and techniques used for the literature search, please contact the author directly.

<sup>4</sup> Contingency management is a positive reinforcement intervention used to change unwanted behavior. Simply put, subjects are rewarded with a monetary incentive or other intrinsically valuable commodity when they perform a desired behavior such as producing a toxicology report that is negative for illicit substances.

<sup>5</sup> Cognitive and behavioral therapy emphasizes recognizing the relationship between one's behaviors and thoughts and understanding how they influence the continuance of the problematic behavior. Change occurs when unwanted behaviors and thoughts are phased out for new behaviors and thoughts.

<sup>6</sup> Avants and Margolin (2004) developed a free manual of their intervention. It is available online at <http://www.3-s.us>.

<sup>7</sup> For additional details on the NLM method, see <http://www.ibr.tcu.edu>.

<sup>8</sup> In order to protect the confidentiality of the subjects, this article does not disclose their names. For this reason, the dates and locations of interactions are also withheld.

## ABOUT THE AUTHOR

AARON WILLIS is a second-year clinical student at the School of Social Service Administration, with an interest in evidence-based practice for substance abuse treatment and child welfare. Currently, Aaron is working with the mentally ill, substance abusing population. He will pursue this interest at the University of Iowa's School of Social Work doctoral program. Prior to attending SSA, Aaron lived in St. Paul, MN, working as a Child Protection Worker and volunteering as a board member for the Tourette Syndrome Association of Minnesota. Before his child welfare experience, he worked with a court-sponsored diversion program for juvenile offenders and provided mediation services for the victims and offenders. Aaron received a B.A. in religion and criminal justice from Gustavus Adolphus College.