

RESEARCH ROUNDUP

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Special issue: DATAR in Review

DATAR was one of several 5-year demonstration research projects funded by NIDA.

The Improving Drug Abuse Treatment for AIDS-Risk Reduction (DATAR) project was one of several 5-year demonstration research projects funded by the National Institute on Drug Abuse (NIDA) in response to concerns about AIDS and HIV infection among injection drug users. These projects were asked to develop, implement, and evaluate promising techniques for treatment improvements in community settings throughout the United States.

Over the last 20 years, researchers have found substantial evidence that community-based treatment for drug addiction is effective for many clients; however, the "nuts and bolts" of how treatment process relates to good outcome has not been well understood.

DATAR was designed to study various aspects of what happens during treatment in order to better understand what contributes to effectiveness and positive outcomes. To accomplish this the project looked at a number of treatment enhancement strategies designed to facilitate early engagement in treatment, reduce dropout rates, and respond to client needs. The studies were conducted in outpatient methadone treatment programs in Corpus Christi, Dallas, and Houston, Texas.

Findings from DATAR studies based on intake and during-treatment records are summarized below. Other studies that focus on posttreatment follow-up outcomes are in progress and will be reported in future issues. ■

Characteristics of DATAR clients

A total of 960 clients were admitted to the DATAR project between May 1990 and September 1993. For the combined sample at admission, 69% were male, the average age 37, and average amount of schooling was almost 11 years. Forty-four percent were employed either part-time or full-time during the prior 6 months and average weekly take-home pay was \$356. Eighty-three percent reported daily heroin use and 34%

reported daily cocaine use during the prior 6 months.

Clients averaged 12 lifetime arrests prior to admission and 34% reported no previous drug treatment. Fifty percent had never been in methadone treatment before and among those who had, the average time in treatment was 10.6 months. ■

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Clients were provided with free treatment services.

DATAR treatment services

Clients who consented to participate in this treatment enhancement research project were required to be at least 18 years of age, to have used injection drugs in the 6 months prior to admission, to be able to read and write English, and to have not been in treatment in the past 6 months. In addition, clients had to be willing to supply locator information for follow-up. In exchange for participation in DATAR, clients were provided with free treatment services including methadone maintenance, individual and group counseling, and special psychoeducational workshops.

Daily methadone dispensing was available and dosages averaged 40 mg per day, with dosages ranging from 10 to 85 mg based on individual needs. National surveys of treatment programs indicate these dosing levels were representative of the majority of methadone clinics in the U.S. during 1992. Clients who asked for tapered withdrawal from methadone were encouraged to remain in the program and take advantage of counseling services. ■

Treatment enhancements in DATAR

The goals of the DATAR project were to improve the effectiveness of treatment interventions for drug abusers, to increase understanding of treatment dynamics, and to reduce HIV-risky behaviors. To accomplish these goals, the treatment enhancements designed for DATAR incorporated the following theoretical and clinical perspectives:

Node-link mapping

Node-link mapping, a visual representation system for helping counselors and clients work on issues that arise during counseling, was the primary cognitive enhancement strategy in DATAR. This node-link mapping system (developed by Dr. Don Dansereau) was chosen because it had been shown in other studies to facilitate problem solving by allowing people to "see" their problems as well as talk about them. DATAR counselors received training in the basics of node-link mapping, including how to incorporate it into individual and group counseling. In addition, a variety of prepared instructional maps were used in psychoeducational groups to help focus clients' attention and improve retention of information.

Node-link mapping was the primary cognitive enhancement strategy in DATAR.

Psychoeducational modules

Treatment-relevant psychoeducational materials were developed for DATAR counselors to use in group settings. These curriculum-based modules provided counselors with step-by-step instructions, including discussion guides, exercises, handouts, and other resources for leading successful groups on a variety of topics.

AIDS/HIV Prevention

In keeping with the project's underlying purpose of impacting HIV infection among injection drug users through improved treatment services, the first module introduced focused on AIDS/HIV prevention. It consisted of 4 group education sessions and 2 individual risk-reduction counseling sessions.

Relapse Prevention Training

Successful abstinence requires the development of skills to manage drug cravings. Six sessions taken from the relapse prevention work of Zakon, McAuliffe, and Ch'ien (1985) were adapted for use in the DATAR project. Exercises, handouts, and instruction charts

using node-link mapping were developed to highlight key points covered in each session.

Time Out! For Me

Assertive communication and comfort discussing sexuality have been identified as beneficial skills for helping women avoid HIV risks. The 6 sessions of the *Time Out!* module focused on helping women develop self-esteem, practice communication skills, and become informed about sexual health issues, including AIDS/HIV.

Straight Ahead: Transition Skills for Recovery

The transition from treatment into aftercare is facilitated when clients develop strong social support networks, including linkages to community-based recovery groups such as AA, NA, etc. The 10 sessions in *Straight Ahead* focused on life skills enhancements designed to help clients improve their social

networks, enhance personal relationships, and access community-based self-help groups for ongoing recovery work.

Contingency management

Rewarding positive behaviors often produces positive results. This strategy was the basis for DATAR's contingency management interventions. Counselors were trained in the administration of a system that allowed clients to earn "stars" for treatment-positive behaviors such as having clean urines and attending counseling sessions. The stars could later be exchanged for inexpensive prizes (gas coupons, T-shirts, etc.). The reinforcement of these behaviors was intended to help clients comply more fully with treatment protocols, improving their chances for recovery. Special attention was given to the early phase of treatment when client engagement is crucial. ■

Clients earned "stars" for treatment-positive behaviors.

Findings from DATAR

The orderly flow of data collection from the three treatment sites made it possible for some preliminary during-treatment evaluations and studies to begin during the project's first year, with subsequent analyses continuing through the end of the data collection phase and beyond. Figure 1 summarizes

some of the improvements in functioning from pre-admission to month 3, based on a sample of clients who remained in treatment for 90 days or longer. In addition to baseline and psychosocial assessments, periodic during-treatment information was collected about clients' progress, participation in

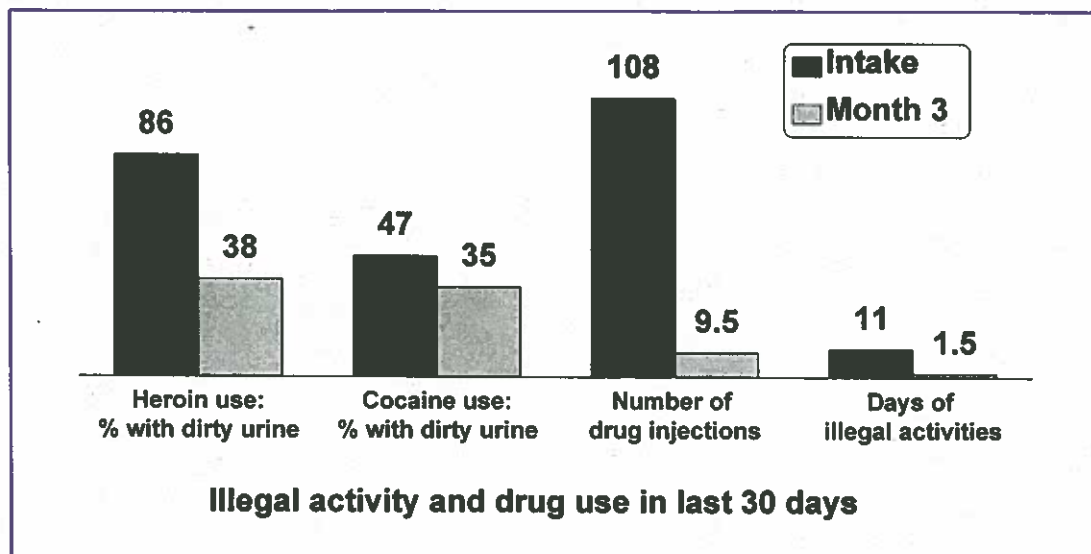


Figure 1.
Behavioral improvements from pre-admission to month 3.

treatment services, satisfaction with service delivery, and changes in drug use patterns and psychological functioning. The DATAR studies outlined below are based on subsamples of the 960 clients discussed earlier.

Node-link mapping

A series of studies was conducted to assess the impact of mapping on treatment progress. In the early phase of DATAR, half of the counselors at each treatment site were randomly selected to use mapping as a counseling tool. These counselors were trained in mapping while their fellow DATAR counselors received no mapping training and served as a “standard counseling” control group. Clients were randomly assigned to mapping or standard counselors.

Summaries of mapping studies

- ❖ Mapping was found to increase the client’s commitment to treatment. Mapping clients attended more scheduled counseling sessions than did nonmappers.
- ❖ Mapping was related to reduced drug use in early treatment and beyond. Mappers had fewer urinalyses that were positive for opiates and cocaine than did nonmappers.
- ❖ The counselor’s relationship with the client appeared to be improved by mapping. That is, mapping counselors described their mapping clients as more motivated and self-confident and felt they had established better rapport and communication with them.
- ❖ Mapping influenced how clients regarded their counselor’s skills. Compared to nonmappers, clients who used mapping rated their counselors as more knowledgeable and professional.
- ❖ Using maps seemed to help reduce cultural and racial communication barriers. Mapping appeared to provide a visual supplement and common lan-

guage that may have served to enhance counselor-client interchanges.

- ❖ Mapping improved treatment engagement for cocaine-using clients, leading to better outcomes on urinalyses, participation in counseling, and counselor ratings by clients.
- ❖ For clients with attentional problems, mapping appeared to help focus and maintain attention, resulting in better program compliance.
- ❖ Mapping improved how counseling sessions were rated by both clients and counselors. Mapped sessions were seen as more powerful, valuable, and helpful than were sessions without mapping.
- ❖ The quality of group counseling sessions appears to be enhanced by mapping. The use of mapping increased ratings of helpfulness attributed to group counseling by providing a focus of attention for group discussions.

Based on the positive findings for mapping that have emerged from DATAR studies, a theory-driven framework for cognitive enhancements to substance abuse counseling has emerged. It appears that the visual portrayal of recovery issues provides both client and counselor with a tool that enhances communication, commitment, and feelings of positivity. Mapping seems to be an effective counseling strategy that can help people see complexities and relationships as it focuses and guides attention during therapeutic interactions.

Client engagement

Treatment outcomes have been shown to be positively related to length of time spent in treatment. Client engagement refers to how well the client participates and becomes seriously involved in his/her treatment program. To examine this process of client engagement and recovery, comprehensive assessments of clients, counselors, and the therapeutic environment were used. In addition, several studies included systematic

Mapping clients attended more scheduled counseling sessions than nonmappers.

efforts to increase the client's involvement in treatment through the use of contingency management procedures.

Summaries of client engagement studies

❖ *Motivation for treatment*

The combination of motivation, social stability, treatment history, and methadone dose may help predict how long a client will stay with the program. Clients with higher motivation scores and social stability indicators at intake who had been in treatment before and who were receiving higher methadone doses were more likely to stay in treatment beyond the first 60 days. The combination of these factors was more predictive than any single factor by itself.

❖ *Client engagement in treatment*

The number of counseling sessions attended during treatment was positively related to favorable behavioral outcomes and better ratings of therapeutic interactions by both client and counselor. Drug use, injection frequency, illegal activity, and psychosocial functioning improved as a function of higher client engagement in the first 3 months of treatment.

❖ *Psychological problems*

Clients with the highest indicators of psychological problems at intake (anxiety, depression, thoughts of suicide, poor impulse control) were least likely to drop out of treatment in the first 90 days. These clients were more likely to attend individual counseling sessions and their behavioral and psychological problems diminished during treatment.

❖ *Contingency management*

When counseling session attendance and clean urines were rewarded with inexpensive prizes, the clients receiving rewards attended more group sessions and decreased drug use during treatment.

When positive behaviors (clean urines and participation in counseling) were rewarded with small prizes during the first 90 days of treatment, clients attended more individual counseling sessions. They also were rated by counselors as having more rapport, motivation, and self-confidence 3 months after the intervention ended and were less likely to have used cocaine during treatment.

Psychoeducational modules

Client education and skills building were identified as important secondary goals in DATAR, and several studies were undertaken to assess the usefulness and impact of the psychoeducational modules developed for the project. The modules underwent numerous phases of pilot-testing and modification before being formally studied in the treatment sites.

Summaries of psychoeducational module studies

❖ *AIDS/HIV module*

AIDS/HIV education programs appear to be effective, especially if implemented early in treatment. All clients (including those in treatment less than 4 months) who took the module increased their knowledge about AIDS/HIV, reduced HIV-risky behaviors, and improved their attitudes about quitting drug use and maintaining abstinence.

❖ *Time Out! For Me module*

Women who participated frequently (defined as attending 4 or more of the 6 sessions) showed greater increases in self-esteem and knowledge than women who participated less frequently (1–3 sessions). In addition, women who participated frequently stayed in treatment longer after the module's completion than women who attended less frequently.

A variety of issues were addressed through skills-building and educational modules.

❖ **Relapse Prevention module**

This module was found to be of educational value regardless of when it was offered during the client's treatment. Knowledge scores at posttest were higher for those who attended the most sessions.

❖ **Straight Ahead module**

Clients who participated in the field-testing of the module rated the material as useful and helpful, especially material related to the use of problem-solving maps, communication skills, stress management, and solution-focused thinking.

related to psychosocial functioning in adulthood. The adverse impact of poor parental support was found to be compounded by even moderate amounts of parent-child conflict while growing up.

❖ **Changes in family/peer relations**

During the first 3 months of treatment, positive changes in family functioning and peer relationships (as defined by family alcohol use, family blaming, and associations with deviant peers) were associated with greater decreases in drug use, injection frequency, and illegal activity.

❖ **Suicidal ideation**

Using data collected at intake, clients who demonstrated higher suicidality during treatment (defined as serious threats on at least two occasions, unsuccessful attempts, and successful attempts) were identified. Those with higher suicidal indicators reported more psychosocial dysfunction at admission (depression, hostility, risk-taking, previous thoughts of suicide). In addition, they were more likely to have sought therapeutic help in the past (defined as previous treatments and attendance at self-help groups).

Special studies

Researchers with special interests or areas of expertise were encouraged to pursue promising "leads" as the data were analyzed. This freedom to delve into ancillary issues of interest to the drug treatment field produced a number of valuable findings.

Summaries of special studies

❖ **Family of origin and parenting**

Client perceptions of childhood family environment and the quality of their parental relationships appeared to be

Treatment enhancement training manuals

The following training manuals are available from IBR's DATAR project:

APPROACHES TO HIV/AIDS EDUCATION IN DRUG TREATMENT. (Nov., 1994). A counselor manual for leading 4 educational group sessions. 187 pp., illus., appens. Session handouts.

MAPPING NEW ROADS TO RECOVERY: Cognitive Enhancements to Counseling. (Aug., 1993). A self-paced training manual for counselors interested in learning node-link mapping. 131 pp., illus., bibl., appen., exercises, glos.

STRAIGHT AHEAD: Transition Skills for Recovery. (Nov., 1993). A counselor manual for leading 10 educational group sessions incorporating node-link mapping. Designed for clients ready for transition into aftercare. 193 pp., illus., bibl., intro. Session handouts.

TIME OUT! FOR ME: An Assertiveness and Sexuality Workshop Specially Designed for Women. (Oct., 1991; rev. Apr., 1994). A counselor manual for leading 6 educational group sessions for women. 218 pp., illus., bibl., appens. Session handouts.

Copies are available for \$15 per manual to cover printing and shipping costs. Free copies are available for small-budget, nonprofit groups. For more information, contact **Norma Bartholomew** at IBR.

❖ *Alcohol problems among methadone patients*

Methadone clients who also were heavy drinkers (defined as consuming at least one or more ounces of absolute alcohol per day and three or more drinks in an hour during the past month) were divided into two groups—those with no DSM-III-R dependency symptoms and those with three or more dependency symptoms.

Although clients with dependency symptoms were found to be the poorest treatment risks as evidenced by greater problems with illegal activities, psychosocial functioning, and family/peer relationships, they nevertheless remained in treatment significantly longer. Results support the need for careful evaluation and intake assessments for methadone clients who are heavy alcohol users.

❖ *Cocaine and AIDS/HIV risks*

Clients in treatment for opiate addiction who also used cocaine (about 60% of admissions) were found to engage in more HIV-risky behaviors than

noncocaine users. Cocaine users were less likely to have used clean needles and more likely to have shared injection equipment. They also reported more instances of unprotected sex and trading sex for drugs.

❖ *Assessing cocaine use by hair analysis*

One of the DATAR sites was used exclusively for a special study of criminal justice probationers referred to brief outpatient treatment because of cocaine use. A total of 64 clients participated in this study and hair analysis at admission was used to help establish that previous cocaine use had occurred.

Preliminary results revealed that hair analysis effectively detects cocaine use in clients who fail to self-report cocaine and who have negative urinalysis. Nearly 40% of the sample in this pilot study qualified for treatment only because of hair test results, and they did not challenge the evidence. Furthermore, the amount of cocaine in the hair at admission also was inversely related to program participation and treatment completion rates. ■

Special studies allowed researchers to pursue additional areas of interest.

Conclusions

With regards to treatment enhancements for the chemical dependency field, one of DATAR's most encouraging findings to date has been that node-link mapping offers counselors an effective tool for improving their therapeutic relationship with clients. At the same time, studies of treatment process have illuminated some of the factors that can help retain clients in treatment and engage them more fully in their recovery program. Also encouraging was evidence that structured psychoeducational modules can be beneficial adjuncts to treatment, providing counselors with step-by-step instructions for addressing special issues and concerns in group settings.

Posttreatment follow-up studies (based on Year 1 follow-up data) will be forthcoming. Initial findings are promising and indicate

that drug use was significantly reduced at follow-up for heroin, cocaine, "speedball," marijuana, and alcohol. Future follow-up studies will look at client characteristics such as gender, family of origin, drug use, and psychosocial problems, and also will examine the impact of during-treatment variables such as participation in mapping, contingency management, and the DATAR psychoeducational modules.

The Institute of Behavioral Research is indebted to the treatment programs involved in the DATAR project: **Corpus Christi Drug Abuse Council (CCDAC)** in Corpus Christi; **DARCO Drug Services** in Dallas and **adVance Treatment Center** in Houston. Special appreciation is expressed to counselors and staff members at each agency. ■

This Special Edition of RESEARCH ROUNDUP . . .

summarizes over 40 papers already published or pending publication in professional journals or books; additional technical documents describing data collection instruments and procedures also have been completed. These highlights of DATAR during-treatment research are based on an article entitled "The DATAR Project: Cognitive and Behavioral Enhancements to Community-Based Treatment," by Drs. Dwayne Simpson, Don Dansereau, and George Joe. This article will appear as a chapter in the upcoming book, *The Effectiveness of Innovative Strategies for Treatment of Drug Abuse*, edited by F. M. Tims, B. W. Fletcher, J. A. Inciardi, P. Delaney, and A. M. Horton (Greenwood Press: Westport, Connecticut).

A bibliography of current DATAR papers and reports is available through IBR. ■

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