

ICPSR 2258

**Drug Abuse Treatment Outcome
Study (DATOS), 1991-1994: [United
States]**

*United States Department of Health and
Human Services. National Institute on
Drug Abuse*

Codebook for Time in Treatment and Interview
Availability Indicators

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DRUG ABUSE TREATMENT OUTCOME STUDY-ADULT STUDY

INTRODUCTION

A. Background

The Drug Abuse Treatment Outcome Study (DATOS) is the third in the National Institute on Drug Abuse's (NIDA) series of large-scale multisite studies of community-based treatment. It follows the Drug Abuse Reporting Program (DARP) and the Treatment Outcome Prospective Study (TOPS). The DATOS family of studies consists of DATOS-adult, DATOS-adolescent, and the Cocaine Treatment Outcome Study (CTOS). DATOS-adult is viewed as a focal point of a comprehensive, systematic DATOS-based research program and family of studies to investigate treatment outcomes.

The major objectives of DATOS are to (1) develop current and more comprehensive information about drug abuse treatment effectiveness; (2) describe the characteristics of clients entering treatment and the treatment they receive in typical and stable community-based settings; (3) assess the contributions to client outcomes of program type, client characteristics, and treatment received; (4) assess the cost-effectiveness of drug abuse treatment across the major types of programs; and (5) compare the changes in clients, treatment, and treatment outcome findings from earlier multi-site studies. DATOS-adult is a comprehensive, multi-site prospective cohort study of clients entering treatment from 1991 to 1993. Approximately 10,000 clients from 96 programs in 11 cities were assessed at intake. Re-interviews were completed at 1 and 3 months during treatment with clients who continued their treatment. Follow-up samples of about 4,500 clients (12-months after treatment) and about 2,300 (at 60-months after treatment) were selected for locating and interviewing in the community.

B. Research Design

Community-based studies of the effects of drug abuse treatment on client behavior have many complexities in design, analysis, and interpretation. The prospective cohort design used in DATOS is the most appropriate design to study the interactions among client characteristics and treatment elements (Cook & Campbell, 1979; Singer, 1986). Both detailed measurement, fundamental to clinical epidemiological research, and multiple comparison groups available in prospective cohort studies, are utilized in DATOS. Although a principal goal of the study was to provide descriptive information on the characteristics of clients entering selected drug abuse treatment programs and their behaviors before, during, and after treatment, the design provides strong support for evaluative and causal inferences.

C. Program Sample

DATOS studies the effectiveness of treatment provided by typical and stable community-based organizations. Programs that provide such treatment were selected to develop samples of clients and treatment approaches to understand program effectiveness and to examine the factors contributing to positive outcomes. The programs involved in DATOS reflected approaches to treatment, and their client populations exhibited the major behavior patterns of clients receiving treatment for drug abuse between 1991 and 1993. As a study of treatment effectiveness, DATOS purposively sampled programs reflecting a full continuum of typical clinical approaches. In most of the communities, all programs were involved. Once the programs were selected, all clients who were admitted to treatment within the time frame were contacted and scheduled to be interviewed. This provided a pool of clients from which the samples for analysis could be developed. Most programs differed in their admission and intake criteria. DATOS was not designed to provide prevalence estimates or program evaluation. Neither the sample of programs nor clients was a statistically representative sample. The aim of the DATOS was to develop a pool of clients who differed in their exposure to various treatments in order to examine key relationships among client characteristics, treatment and outcomes. The changes in the treatment system raise many important issues surrounding who can be defined as a client and when they qualify. This re-definition is a major research issue in itself and was beyond the scope of DATOS. Consequently, it was virtually impossible to develop a consistent strategy to list clients who were eligible. Thus, a traditional response rate for intake and in-treatment interviews is difficult to conceptualize, and if one or many were to be calculated it would be specific to a modality or program type and the analysis sample of interest. Without a firm denominator, "response rates" cannot be consistently calculated across programs.

Geographic location, the type of program, and the representativeness of the program and its clients were considered in the selection of cities, programs, and clients for DATOS. Since the intense data collection efforts required for DATOS precluded wide geographic dispersion of programs, a limited number of candidate cities were chosen to reflect treatment approaches and clients in different sections of the United States. Cities considered were medium to large metropolitan areas with established treatment systems that included programs from each of four traditional modalities. Programs within each of the four major modalities of treatment varied in funding mechanism and philosophy

Eleven cities were selected as sites for the DATOS-adult study. Initial training of interviewers in five cities was conducted in November 1991, and data collection began during late November 1991. In May 1992, a second training session for interviewers for the other sites was held, and data collection began in those four cities in early summer 1992. A third training session was held in August 1992, and programs in the two remaining areas were added to implement the full complement of 11 cities and 120 programs in DATOS-adult. A number of the programs never produced any interviews due to inadequate client flow, and several closed before data collection began. In the end, 96 programs produced interviews, but only 81 programs yielded 20 or more intake-1 interviews. (Some earlier papers and reports counted 99 DATOS-adult programs, but subsequently it was determined that a few programs had merged or changed administrative structure and the final count was 96 programs.) The greatest number of clients with the fewest programs was short-term inpatient due to the rapid turnover of client beds. In contrast, methadone programs, whose clients stayed over a year in many cases, required more than double the numbers of programs to yield fewer than half the number of clients.

D. Instrumentation

The repeated measures design included the use of three sets of instruments for client-level data collection. These included the intake, in-treatment, and follow-up questionnaires. In addition, program level data were collected utilizing questionnaires administered to treatment program directors and counselors.

Intake 1. The Intake 1 Questionnaire obtained baseline data and took approximately 90 minutes to complete. Some of the key sections of the questionnaire were Demographics and background, Education and training, Admission information, Drug use, Mental health status, Illegal involvement, Employment, and Income and expenditures.

Intake 2. The Intake 2 Questionnaire, which also required approximately 90 minutes to complete, was administered approximately one week after the Intake 1 Questionnaire. It contained sections on Health, Anxiety, Depression, Sexual experiences, Behavioral problems, Psychological distress, and Motivation and readiness for treatment.

In-treatment. Client data were collected primarily through client in-treatment interviews (also called "During-treatment interviews") administered at 1, 3, and 6-months after admission. The client in-treatment interviews obtained behavioral information similar to that collected at intake for the in-treatment time frames. The interviews also asked detailed questions about services received during treatment, the content of service sessions, provider, amount (number and length of sessions), satisfaction and perceived helpfulness.

Follow-up. Interviews were administered at 12-months after treatment termination. For long-term methadone clients whose treatment lasted more than 12 months, the follow-up interview was instead scheduled at 24 months after admission. The follow-up interview replicated much of the Intake interviews and focused on key behaviors during the year prior to the follow-up interview.

E. Data Collection Procedures

Interviewers were well-trained and closely supervised. Approximately 70 interviewers recruited, trained, and supervised by the Research Triangle Institute (RTI) were directly responsible for the data collection at all the treatment programs. Intake and in-treatment data were collected within a program's physical facilities by the on-site program researcher (PR) trained and monitored by RTI staff. Clients were compensated \$10 for each Intake and In-treatment interview, and \$15 for a Follow-up interview. Seven-day training sessions for the interviewers were conducted which included both the details of the administration of the various instruments and experience in working with the programs. Staff providing the training were experienced in drug abuse and treatment studies and had extensive experience in the training on the Diagnostic Interview Schedule (DIS) and other components of the assessment battery used in DATOS.

To ensure data quality for DATOS, weekly phone reports from each PR were required and a quarterly site visit was made to each program to monitor the data collection. In addition, two randomly selected interviews completed by all active PRs were reviewed monthly. Quality control procedures were instituted at each step of data management, data receipt and edit, data entry, and document control.

F. Status of DATOS Study and Future Directions

Upon completion of the 12-month post-treatment follow-up phase of adults, DATOS-adult began the next cycle which involves a Cooperative Agreement among NIDA, the Institute for Community-Based Research (ICBR) of the National Development and Research Institutes, Inc. (Raleigh, NC), the Institute for Behavioral Research (IBR) at Texas Christian University (Fort Worth, TX) and the Drug Abuse Research Center (DARC) at the University of California at Los Angeles.

The Cooperative DATOS is an important NIDA-sponsored effort designed to collaboratively analyze data obtained under the DATOS family of studies, to examine key questions, and provide answers and new knowledge about drug abuse treatment as it has been and is being provided under contemporary conditions. Several research themes are being explored within the Cooperative:

- Studies of contemporary treatment outcomes, especially long-term outcomes and how they relate to phases of addiction and treatment
- Examination of the evolving drug abuse treatment system, including delivery and utilization of primary and ancillary services
- Research on the components of effective treatment, including the identification of factors that engage and retain clients in programs

Four variable domains, selected in accord with their significance for the drug abuse field, are being emphasized within the contexts of each set of studies. The domains include cocaine use, HIV risk behaviors, psychiatric co-morbidity, and criminal justice status.

An extended follow-up was in progress as of December 2002 to gather data on clients over a 4-year follow-up period. The added data will allow for a more in-depth examination of treatment and the long-term history of a contemporary sample of drug abuse clients.

For a more complete discussion of the DATOS methodology, see

Flynn, PF, Craddock, SG, Hubbard, RL, Anderson, J., and Etheridge, RM. (1997). Methodological Overview and Research Design for the Drug Abuse Treatment Outcome Study (DATOS), Psychology of Addictive Behavior, 11 (4).

For a list of DATOS publications please refer to Appendix A or the DATOS web page at <http://www.datos.org/publications.html>

G. ICPSR/SAMHDA Data Cleaning and Processing

This documents the steps taken to clean and process the Drug Abuse Treatment Outcome Study (DATOS) files in preparation for releasing the files through the Substance Abuse and Mental Health Data Archive (SAMHDA).

Several steps were taken in order to prepare the files for public release. These steps included:

1. Checking for wild codes.
2. Checking for data consistency (e.g., making sure that codes for age-related and timeframe questions were within the range specified in the question).
3. Checking for undocumented codes.
4. Determining which variables could pose confidentiality issues and determining the best way to handle each potential risk. Variables were considered both individually and in conjunction with other potentially identifying variables.

For the first three steps, data processors worked with the Principal Investigators to obtain value labels (e.g., for undocumented and wild codes) and confirm information in the documentation (e.g., for apparent inconsistencies). Editing of variable and value labels was also necessary.

Step four, determining confidentiality risks, involved looking individually at the variables that could present a risk and then examining those variables in conjunction with other variables. An overriding goal in cleaning and editing the files was to both protect confidentiality and preserve variables as reported to the extent possible in order to provide the greatest analytic utility and to allow researchers to group values as necessary for comparability to other surveys.

The most highly identifying DATOS variables included city, treatment program, and date of birth. The data are most informative in terms of comparisons across modalities, not across sites or programs; therefore, city and program identifiers (i.e., value labels) were never part of the data files. Further, the variables identifying separate cities and programs were also deleted, again due to the primary utility of the data being comparisons across modalities. The absence of these identifiers from the files allowed considerable latitude in preserving the data as reported. Date of birth was removed from the files because age at time of interview was provided as a separate variable. These, as well as other variables examined and changed due to confidentiality concerns are discussed below.

City and program names: The numeric codes identifying separate cities and programs were deleted. The original client IDs had embedded codes (e.g., related to treatment program); these were also deleted. Individual cases are identified by a sequential number 1-10,010.

Date of birth: Date of birth (DOB) was deleted from the files; age at time of interview was also on the files and was preserved and top-coded at 55 and over.

Age at time of ... : Several continuous variables denote age at the time of a certain event. For some of these variables, dichotomous codes "1" and "95" were also used for "don't know but under 15" and "don't know but 15 or older," respectively. Code "1" was also used for actual responses of "1 year old." Because it is unlikely that these events occurred at age 1, "1" was changed to "94" ("1 or don't know but under 15") to make it clearer that this code indicates something other than age 1.

Age at time of ... was also top-coded at 55 and over. In examining the age codes, a few cases were apparently bad data (e.g., age at first use was 0-5, except as noted above) but were left alone due to the possibility that the use of the drug was administered by a parent or caretaker.

Legal status (criminal involvement) at time of admission, "Other; specify": The details provided in "specify" were deleted; value coded as "Circled."

Have other health plan: Plans offered in a limited geographic area were coded as "Other."

Occupation: Highly detailed occupation codes were combined into larger categories.

Race: These codes were re-coded as "White," "Black," "Hispanic," and "Other."

Ethnicity: Detailed ethnicity codes and variables were collapsed or deleted.

Description of ethnic/cultural background (Hispanic): Coded as "Puerto Rican," "Mexican," "Cuban," "Mixed," all others coded or re-coded as "Other."

What other languages do you speak: Coded as "German," "Spanish," "French," all others coded or re-coded as "Other."

Length of marital status in weeks: Re-coded to years; top-coded as 21 or more.

Length of time since divorce in months: Re-coded to years; top-coded as 21 or more.

Highest grade completed: Top-coded as 21 or more.

Type of school/training program attended: Job corps and special education (very low frequencies) coded as "Other."

Number of children: Top-coded based on frequencies as "6 or more" (e.g., your own children) and "7 or more" (e.g., children to whom you gave birth or fathered) and "8 or more" (e.g., your own children and those raised as your own).

Date of admission: The month of admission was re-coded as quarter; day of admission was deleted (year is a separate variable).

Date of interview: This variable is associated with date of admission. Month was re-coded as quarter; day of admission was deleted (year is a separate variable).

ICD-9/DSM diagnosis codes: These were re-coded as "substance-related condition," "mental health condition," and "all other conditions."

Number of months currently pregnant: Re-coded by trimester.

Reason felt worthless/sinful/guilty: This variable was not numerically-coded on the original files (i.e., the verbatim responses were provided); this variable was therefore deleted.

Presence of a specific physical handicap: Variables related to a specific physical handicap (e.g., blindness) were deleted from the files. This involved three variables with fewer than five cases each.

Problems related to getting a job: Variables that were potentially identifying with very low frequencies (fewer than five), such as immigration status, were deleted.

Questions respondent did not understand: These variables were deleted from the files because they were not coded or in any particular order and therefore, of little analytical use.

Administrative variables: “Batch,” time checkpoints, and other variables related to questionnaire administration were deleted from the files.

Other variables: Other variables, such as those related to use of drugs with relatively low frequencies were examined in light of any risk to confidentiality but not changed due to the geographic and other identifying variables being removed from the files and other potentially identifying variables, such as date of birth being removed or re-coded. “Program type” was examined and left alone because it is critical to the intent of the study and because other potentially identifying codes were removed (e.g., geographic codes, DOB) or re-coded (e.g., date of admission). Remaining data items were related to subjective questions or approximate timeframes (e.g., trouble falling asleep, how helpful were services received, number of weeks respondent felt depressed in last 12 months, etc.). These were not considered to pose risks to confidentiality and were left unchanged.

H. User Responsibility

Users are reminded that the data are to be used solely for statistical analysis and reporting of aggregated information and not for investigation of specific individuals or organizations.

I. ICPSR Processor Notes

1. Users are advised that the data are most appropriately analyzed by modality.
2. The Intake 1 and Intake 2 data files contain several continuous variables that denote age at the time of a certain event. For some of these variables, dichotomous codes "1" and "95" were also used for "don't know but under 15" and "don't know but 15 or older," respectively. Code "1" was also used for actual responses of "1 year old." Because it is unlikely that these events occurred at age 1, "1" was changed to "94" ("1 or don't know but under 15") in order to make it clearer that this code denotes something other than age 1. Users are cautioned that this may have an effect on any analyses performed using these variables.

FREQUENCIES

IDENTIFICATION

CASEID CASE IDENTIFICATION NUMBER

10,010 cases (Range of valid codes: 1-10010)

Data type: numeric
Columns: 15-19

MODALITY TREATMENT MODALITY

PCT	PCT	N	VALUE	LABEL
VALID	ALL			
27.7	27.7	2,774	1	RESIDENTIAL
31.2	31.2	3,122	2	SHORT-TERM INPATIENT
15.4	15.4	1,540	3	METHADONE MAINTENANCE
25.7	25.7	2,574	4	OUTPATIENT DRUG FREE
-----	-----	-----		
100.0	100.0	10,010	cases	

Data type: numeric
Column: 6

TIME IN TREATMENT DATA

DAYSIN DAYS IN TREATMENT

(Created from DIS_DT - ADMIS_DT)
 Days in treatment is estimated from sources noted in SOURCE variable. Some sources are more reliable than others.

10,010 cases (Range of valid codes: 0-1021)

Data type: numeric
 Missing-data code: -9
 Columns: 1-4

SOURCE SOURCE OF DISCHARGE DATE VARIABLE

PCT	PCT	N	VALUE	LABEL
VALID	ALL			
0.0	0.0	5	0	NO DISCHARGE DATE AVAILABLE
13.7	13.7	1,372	1	FUP FIELDWORK FILE
47.3	47.3	4,737	2	INTRTMENT CONTROL SYSTEM FILE
11.1	11.1	1,110	3	CONTACT SHEET: DISCHARGE DATE
0.1	0.1	9	4	CTOS FILES
0.4	0.4	39	5	CONTACT SHEET: LAST PHYSICAL CONTACT
2.7	2.7	271	6	FUP: CLIENT SELF-REPORT
16.7	16.7	1,672	7	CONTACT SHEET: DATE LAST INTERVIEW
4.1	4.1	409	8	REVISED DATE/LAST INTERVIEW
3.9	3.9	386	9	STILL IN TRTMT @ FOLLOWUP INTERVIEW DATE
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100.0	100.0	10,010	cases	

Data type: numeric
 Column: 5

INTERVIEW AVAILABILITY INDICATORS
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INTAKE1	INTAKE-1 INTERVIEW AVAILABLE
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PCT	PCT	N	VALUE	LABEL
VALID	ALL			
100.0	100.0	10,010	1	INTAKE-1 AVAILABLE
-----	-----	-----		
100.0	100.0	10,010		cases

Data type: numeric
Column: 7

INTAKE2	INTAKE-2 INTERVIEW AVAILABLE
----------------	-------------------------------------

PCT	PCT	N	VALUE	LABEL
VALID	ALL			
12.5	12.5	1,255	0	NO INTAKE-2
87.5	87.5	8,755	1	INTAKE-2 AVAILABLE
-----	-----	-----		
100.0	100.0	10,010		cases

Data type: numeric
Column: 8

ONEMO	ONE-MONTH INTERVIEW AVAILABLE
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PCT	PCT	N	VALUE	LABEL
VALID	ALL			
38.6	38.6	3,862	0	NO 1-MONTH INTERVIEW
61.4	61.4	6,148	1	1-MONTH INTERVIEW AVAILABLE
-----	-----	-----		
100.0	100.0	10,010		cases

Data type: numeric
Column: 9

THREEMO	THREE-MONTH INTERVIEW AVAILABLE
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PCT	PCT	N	VALUE	LABEL
VALID	ALL			
68.2	68.2	6,830	0	NO 3-MONTH INTERVIEW
31.8	31.8	3,180	1	3-MONTH INTERVIEW AVAILABLE
-----	-----	-----		
100.0	100.0	10,010		cases

Data type: numeric
Column: 10

APPENDIX A: Publications**1999 Publications**

- Broome, K. M., Flynn, P. M., & Simpson, D. D. (1999). Psychiatric comorbidity measures as predictors of retention in drug abuse treatment programs. *Health Services Research*, 34(3), 791-806.
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- Fletcher, B. W., & Battjes, R. J. (1999). Introduction to the special issue: Treatment process in DATOS. *Drug and Alcohol Dependence*, 57, 81-87.
- Flynn, P. M., Kristiansen, P. L., Porto, J. V., & Hubbard, R. L. (1999). Costs and benefits of treatment for cocaine addiction in DATOS. *Drug and Alcohol Dependence*, 57, 167-174.
- Gossop, M., Marsden, J., Stewart, D., & Rolfe, A. (1999). Treatment retention and 1 year outcomes for residential programmes in England. *Drug and Alcohol Dependence*, 57, 89-98.
- Grella, C. E., Hser, Y., Joshi, V., & Anglin, M. D. (1999). Patient histories, retention, and outcome models for younger and older adults in DATOS. *Drug and Alcohol Dependence*, 57, 151-166.
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- Simpson, D. D. & Brown, B. (Eds.) (December, 1999). Special issue on treatment process and outcome studies from DATOS. *Drug and Alcohol Dependence*.

1999 "In Press"

- Grella, C. E., Etheridge, R. M., Joshi, V., & Anglin, M. D. (in press). Delivery of HIV risk reduction services in drug treatment programs. *Journal of Substance Abuse Treatment*.
- Grella, C. E., Joshi, V., & Anglin, M. D. (in press). Gender differences Outcome Study. *Journal of Maintenance in the Addictions*.
- Hser, Y., Shen, H., Grella, C., & Anglin, M. D. (in press). Lifetime severity index for cocaine use disorder (LSI-Cocaine): A predictor of treatment outcomes. *Journal of Nervous and Mental Disease*.
- Knight, K., Hiller, M. L., Broome, K. M., & Simpson, D. D. (in press). Legal pressure, treatment readiness, and engagement in long-term residential programs. *Journal of Offender Rehabilitation*.
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- Rounds-Bryant, J. (in press). Substance use, mental disorders, abuse, and crime: Gender comparisons among a national sample of adolescent drug treatment clients. *Journal of Child and Adolescent Substance Abuse*.
- Rowan-Szal, G. A., Joe, G. W., & Simpson, D. D. (in press). Treatment retention of crack and cocaine users in a national sample of long term residential clients. *Addiction Research*.

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Fletcher, B. W., Tims, F. M., & Brown, B. S. (1997). The Drug Abuse Treatment Outcome Study (DATOS): Treatment evaluation research in the United States. *Psychology of Addictive Behaviors*, 11(4), 216-229.

Flynn, P. M., Craddock, S. G., Hubbard, R. L., Anderson, J., & Etheridge, R. M. (1997). Methodological overview and research design for the Drug Abuse Treatment Outcome Study (DATOS). *Psychology of Addictive Behaviors*, 11(4), 230-243.

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