

SECTION ONE

KENTUCKY TREATMENT OUTCOME STUDY BACKGROUND

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Combined alcohol and drug abuse costs were estimated at \$276.3 billion in the United States in 1995 by the National Institute on Drug Abuse and the National Institute on Alcoholism and Alcohol Abuse (NIDA & NIAAA, 1997) and drug abuse costs alone were estimated at \$160.7 billion for 2000 (ONDCP, 2001). The costs of substance abuse treatment are also high and 70% of the burden for this treatment is born by public funding (Egertson, Fox, & Leshner, 1997). In Kentucky, the state spends approximately \$34 million each year using Federal Block Grant and state general funds. The use of public funds for substance abuse treatment services includes a need for treatment outcome data. Although there are a number of published substance abuse treatment outcomes studies, funding sources continue to call for studies at the program, state, and Federal levels (Swearingen, Moyer, & Finney, 2003). Overall these studies report that treatment is associated with reduced substance use and crime as well as improved employment (Hubbard, Craddock, Flynn, Anderson, & Etheridge, 1997; McLellan, Lewis, O'Brien, & Kleber, 2000; Simpson, Joe, & Broome, 2002). With increasing scrutiny of public funds, increased effort is required to closely examine substance abuse treatment outcomes.

Kentucky funds substance abuse treatment services through the Division of Mental Health and Substance Abuse in the Department of Mental Health and Mental Retardation Services. The Division contracts with 14 Regional Community Mental Health Centers to provide services in all areas of the state. The client eligibility criteria for services (clinical need for treatment and low income) are set by the Division but are determined for clients by treatment centers as part of the intake process. The admission does not require state authorization and each center makes an independent clinical decision about admitting each client. About 21,000 clients receive a substance abuse treatment service each year (including clients admitted in previous years) and there are about 11,000 new intakes each year. However, many clients do not complete the intake process and do not enter formal treatment services.

The Kentucky Treatment Outcome Study (KTOS) is designed to examine the outcomes of treatment provided in the 14 Regional Community Mental Health Centers and one state operated residential facility. KTOS uses a pre-and post-test design with the pre-test data collected by clinicians during the intake process on clients who are entering treatment. The post-test follow-up data are collected by the University of Kentucky 12 months after the intake date.

STUDY OVERVIEW

In Kentucky, outpatient substance abuse treatment programs collect data within the first three treatment sessions in order to assess the client and plan a treatment course. For residential programs, KTOS data are collected within the first three days of admission. Both outpatient and residential programs use the same instrument to collect client information.

Baseline data are client self-reported information collected by the treatment service providers at intake. These data are part of the state client-level administrative data which can be used to report treatment outcomes and services for the Federal Substance Abuse Prevention and Treatment Block Grant. The KTOS data are matched to the Client Data Set which can be used in monitoring and evaluating substance abuse treatment services (McCarty, McGuire, Harwood, & Field, 1998). Clients who voluntarily agree to participate in the follow-up study must give informed consent to participate before giving personal locator information that is used to locate them for follow-up interviews 12 months after treatment. The consent and follow-up process is approved by the

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University of Kentucky Institutional Review Board (IRB) and includes informing clients about the purpose of the follow-up study and the study's confidentiality protections. The KTOS study has a Certificate of Confidentiality from the U.S. Department of Health and Human Services to further protect subjects.

Follow-up data are collected from a sample of clients 12 months after treatment intake by the University of Kentucky via phone interviews. The sample includes only those clients who voluntarily consented to participate and who gave accurate locator information. The follow-up data include the same items that were asked at baseline. This allows for comparisons of client data from intake to follow-up 12 months after treatment.

DATA DESCRIPTION

The FY 2003 KTOS baseline and follow-up data include the following client information:

- Demographic Characteristics
- Employment & Economic Status
- Justice System Involvement
- Alcohol Use
- Illegal Drug Use
- Medical and Psychological Status
- Treatment Utilization

Information on each of these domains is collected for the past 30 days and past 12 months before treatment at the intake interview, and for the past 30 days and past 12 months at follow-up. In addition, these client self-report data are used along with service event data to estimate the cost of treatment as part of the evaluation of avoided costs resulting from positive treatment outcomes. The questions for the FY 2003 KTOS study were developed using the Center on Substance Abuse Treatment's (CSAT) primary data collection instrument, the Government Performance Results Act (GPRA), which is based on the Addiction Severity Index (ASI) (McLellan, et al., 1992). In addition, items were used to examine specific Kentucky concerns such as DUI offenses and participation in self-help.

STUDY PROTOCOL

The data collection for the KTOS study begins in state funded substance abuse treatment facilities. Under separate guidelines and contract provisions, state funded substance abuse treatment centers (including Community Mental Health Centers and their affiliated substance abuse treatment agencies) are required to complete the Client Data Set on each client, including identifying a minimum of nineteen items that include provider and client information as well as primary and secondary diagnoses, substance use patterns including route of administration, frequency, and age of first use. These data are used in completing the Treatment Episode Data Set (TEDS) reports for CSAT. In addition, the state has included other life history event variables such as physical or sexual abuse and priority population information.

Baseline/intake Data Collection: Clients consent to the collection of intake information and submission of this information to the state as part of their permission/consent to treatment. This consent process is part of the state requirement when state or block

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grant funds support treatment costs. The substance abuse profile extends the basic client data set information by focusing primarily on substance use within the preceding 30 days and within the past 12 months. The baseline KTOS data are submitted to the University of Kentucky Center on Drug and Alcohol Research (CDAR) as an agent acting on behalf of the state. The KTOS intake data were collected by clinicians in either electronic or scan sheet format for FY 2003.

Follow-up Data Collection: Clients volunteer to participate in the follow-up study. When collecting Client Data Set information and substance abuse profile information, clinicians explain the follow-up study and ask clients about their interest in participating. Clients who agree to participate must give informed consent using the University of Kentucky Medical Institutional Review Board (IRB) approved consent form. This informed consent is administered by the clinician during an interview. Participation in the follow-up study specifies that a client will provide personal identifying information, including the names, telephone numbers, and addresses of individuals who will be able to help locate the client 12 months after treatment. Clients who consent to follow-up and who provide valid locator information are eligible for being selected for a follow-up interview.

SAMPLE

A stratified sampling approach, called proportionate allocation, was used in this study for sample selection (Pedhazur & Schmelkin, 1991). A proportionate allocation sample of the consenting clients is drawn for telephone follow-up using gender, outpatient and residential treatment settings as the sampling frame for keeping the sample proportionate to the population of consenting clients. This means that the follow-up sample has the same proportion of males and females in outpatient and residential treatment as in the overall baseline dataset. The proportionate stratification approach used in this study produces estimates that are as efficient as those of a simple random sample (Pedhazur & Schmelkin, 1991). The follow-up sample was classified into four groups according to the proportion of clients at baseline who were in these treatment categories: (1) Outpatient females; (2) Outpatient males; (3) Residential females; and (4) Residential males. Eligible follow-up clients were contacted using randomized computer-assisted telephone dialing. Follow-up telephone interviews were completed by the University of Kentucky Survey Research Center.

There were 7,537 clients in the baseline KTOS data collection at intake, which occurred between July 2002 and June 2003. Of this total, 32 were from the first PDA-based KTOS program, 3,433 were completed via computers, and 4,072 were bubble sheet KTOS baselines. Of the 7,537 clients at baseline, 3,280 clients (43.5%) consented to participate in the follow-up study and had the minimum locator information for follow-up contact. Follow-up interviews were completed between October, 2003, and October, 2004. During this period, up to 15 call attempts were made to reach each individual. ? Random selection of a follow-up sample was not possible due to incomplete locator information on many clients. Also, a number of clients did not consent at baseline to participate in the follow-up interview. As a result, the representativeness of the follow-up sample and the generalizability of findings are limited. When clients were unable to be contacted at their primary number, backup contact persons listed during the intake interview were contacted in an attempt to locate the participant. The backup persons were given Survey Research Center's toll-free number to provide to the participant.

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There were 3,280 clients who had agreed at baseline to participate in a follow-up interview. Among the 3,280, 253 were ineligible due to the reasons listed below. Of the 3,027 who were eligible, the Survey Research Center was successful in locating and contacting 1,056 clients. The study follow-up rate was 34.9%. Over half the consenting clients (n=1,837, or 56.0%) were unable to be contacted for the reasons listed below:

Ineligibility (n = 253)

incarcerated (191),
deceased (39),
denied receiving past treatment (11),
non-availability for interview (4), and
language barrier (8).

Unsuccessful contact (n = 1,837)

unsuccessful location of individual (1,745),
unsuccessful contact with individual after 15 call attempts (50),
non-contact by the time the study was closed (19),
incorrect number - a computer or fax line (23).

OBJECTIVES

This report on treatment outcomes has six major objectives:

1. To describe the characteristics of follow-up participants at intake;
2. To examine treatment outcomes in terms of substance use;
3. To examine treatment outcomes in employment, justice system involvement, and mental health status changes;
4. To describe outcomes by major treatment modality and by self-help use;
5. To estimate avoided costs to Kentucky associated with substance abuse treatment; and,
6. To discuss implications of follow-up findings for treatment providers.

Sample Characteristics at Intake: An examination of the follow-up sample's characteristics is important to understand what factors may contribute to treatment outcome, as well as to generalize findings. Factors included are: demographic information such as age, gender, marital status, race, ethnicity, education, and living situation; information on current employment and income; information on clients' justice system involvement history and current legal status; information about past and present physical and mental health; and a description of baseline substance use patterns. These analyses are conducted using basic descriptive statistics, such as frequencies and means.

Substance Use Changes: Decreases in substance use were examined for each substance and separately for overall illegal drug use selecting each client's most used substance. For the specific substances, increases in abstinence and decreases in days of use were presented for males, females, and the entire sample. For substance use, the reduction in overall days of use was examined by comparing the available days of use at baseline to days of use at follow-up. To accurately represent the days of reported substance use, clients' time in a controlled living environment was statistically controlled by calculating the proportion of days that each participant was "on the street" and in a

position to access substances. Substance use days are presented as a percent of clients' non-controlled environment days.

Changes in Employment, Justice System Involvement, and Mental Health: Improvements in employment, income, and education enrollment; decreases in justice system involvement; and self-reported physical and mental health were examined for males, females, and the entire sample.

Treatment Type and Volume: Not all individuals in the KTOS sample received the same types and amounts of treatment services. The types and amounts of services individuals received are presented. In addition, the differences in change in substance use were examined among clients who received residential only or outpatient services only.

Cost Analysis: This report examines estimated costs that may have been avoided due to substance abuse treatment from intake to follow-up. For this study only three major areas of cost were examined: (1) Avoided costs from reduced crime; (2) Increases in employment and related taxes paid; and (3) Actual costs of treatment for this sample.

Treatment Implications: The findings in this report suggest several important factors that might be considered in planning future treatment services and recovery supports.

ANALYSIS

This study examines change from intake to follow-up 12 months after treatment intake using two major analytic approaches. For changes in the percent of clients reporting substance use or related behavior, a z test for proportions was used to test for significance. For changes in the mean number of days of substance use from intake to follow-up, a paired samples t-test was used to test for significance. Findings were reported as significant if the p value was at least .01. In addition, policy makers who have relied on these report findings indicated that percent changes and actual changes in the number of days of substance use are important ways to understand the effects of treatment.