PURPOSE AND OBJECTIVE

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PURPOSE

The Kentucky Department of Mental Health and Mental Retardation Services, Division of Mental Health and Substance Abuse contracts with the University of Kentucky Center on Drug and Alcohol Research to survey Kentucky households on the prevalence of substance use and treatment utilization. This study is undertaken to meet the Center on Substance Abuse Treatment (CSAT) Substance Abuse Prevention and Treatment Block Grant requirement. The purpose of this study is to provide information to state health planners in estimating the overall need for substance abuse treatment in Kentucky and with treatment and prevention planning at statewide and regional levels.

OBJECTIVE

The Kentucky Needs Assessment Project 2004 Adult Household Survey is developed to estimate substance use levels and substance abuse treatment needs of Kentuckians 18 years of age and older. This study examined the prevalence of substance abuse for tobacco, alcohol, cocaine, methamphetamines, MDMA, inhalants, hallucinogens, sedatives, tranquilizers, heroin, and other non-over-the-counter pain medications using a telephone survey of Kentucky households. In addition, the study develops estimates for the prevalence of alcohol dependence and poly-substance dependence. Respondents were asked questions related to the criteria defined in the Diagnostic and Statistical Manual, Fourth Edition Text Revision (DSM-IV-TR, American Psychiatric Association, 2000) for substance abuse and dependence. In order for respondents to be classified as needing substance abuse treatment, one of several criteria had to be met: (1) A self-report of need for treatment; (2) Meeting the DSM-IV-TR criteria for substance abuse or dependence in the past 12 months; (3) Continued use of substances in the past 12 months in spite of self-reported problems related to substance use; (4) Engaging in high risk behavior related to substance use in the past 12 months; and (5) Using substances in the past 30 days during pregnancy. While these criteria support a need for interventions, they do not suggest the same level of treatment need. The results of this survey suggest an overall estimate of persons needing treatment. Risk factors were also examined to provide information for prevention services planning in Kentucky.

The study also provides region substance abuse levels and treatment need estimates for each of the 14 state mental health planning districts. Regional-level data can be used for planning.

STUDY DESIGN

The 2004 Adult Household Survey is a descriptive study of past 12 month substance dependence, substance abuse, and related behaviors that also included lifetime and past 30 day measures.

PRINCIPAL FINDINGS

Results of the survey indicate that 12%, or over 374,000, of the adults in Kentucky need substance abuse treatment based on reported substance use and problems within the past 12 months. About one-third of Kentucky adults used at least one illicit drug in their lifetime. More than 119,000 adults (3.8% of the state population) are considered dependent on alcohol with about 334,000 (10.7%) abusing alcohol. About 34,000 (1.1%) adults, within the past 12 months, meet criteria for dependence on an illicit drug, with 60,000 (1.9%) meeting criteria for abuse of an illicit drug.

ACKNOWLEDGEMENTS

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METHODS

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Measures

This study examines drug and alcohol use by asking specific questions on each substance. The questions include items from the National Survey on Drug Use and Health survey instrument, the DSM-IV-TR, and Kentucky-specific items.

Data analyses focused on estimating the number of Kentucky adults for:

- The past 12-month prevalence of cigarette, smokeless tobacco, alcohol, and illicit drugs;
- The need for and use of substance abuse treatment; and
- Past 12-month abuse or dependence on alcohol or other drugs.

It should be noted "illicit drugs" includes both the commonly known "street drugs" as well as drugs legally obtained by prescriptions but used outside the intended dose or purpose.

Specific estimates for sixty-nine measures of substance use and problems are presented in this report. The survey instrument can be seen in Appendix A. Many tables and figures presented in this report indicate the specific question(s) the respondent was asked. References include the page number in the appendix and question number. To better understand the background for this survey, existing methodologies for surveying and estimating prevalence are presented. Several epidemiological methods have been used to estimate the prevalence of substance abuse problems.

Reliability and Validity of Telephone Interviews

The Kentucky Needs Assessment Project (KNAP) 2004 Adult Household Survey used phone interviews across the state of Kentucky in order to determine the prevalence of drug/alcohol abuse or dependence and to determine treatment needs.

The main advantages of telephone surveys over face-to-face interviews are that telephone surveys have lower costs, stricter interview control, greater security and privacy, more efficient sampling, and easier administration[1,2]. Consequently, telephone surveys have become a well established method of estimating drug and alcohol use over the past two decades for the state-wide, national, and international estimates[3].

Overall, it has been shown that telephone interviews provide high quality data[4,5]. Although validity tends to be slightly lower in telephone interviews than in face-to-face interviews, several studies have shown that telephone interviews provide good internal consistency and reliability[6]. For example, a study comparing phone and computer-assisted self interviews to assess HIV risk among teens found no difference between the two methods on comfort level, response bias, and truthfulness[7]. In addition, a longitudinal study of alcoholism diagnoses done with veterans in a large national telephone survey showed strong support for the validity and reliability of assessment using the telephone[8]. Advances in methodology have also worked to improve the accuracy and validity of

survey estimates in general, as well as for telephone interviews[9,2]. Telephone interviews are a widely used, cost-effective way in which to collect data, and, in general, they remain a highly viable method for researchers today to gather information.

The National Survey on Drug Use and Health

The National Survey on Drug Use and Health[10] (NSDUH) study is a national survey which includes some measures of prevalence for certain drugs, substance abuse, and treatment need. Names and addresses of persons were obtained, and potential participants were sent a recruitment letter followed by a screening contact at the person's home. If criteria were met for study participation, interviewers recruited up to 2 persons per household for participation in a computerized interview. Interviewers entered participant responses in a laptop computer and participants answered sensitive questions by directly entering their own answers in the computer. Participants who lived in group homes, shelters, halfway houses, college dormitories, migratory workers' camps and civilians living on military bases were included as potential participants.

The 2003 National Survey on Drug Use and Health (NSDUH) reported higher prevalence rates for drug and alcohol use as well as prevalence rates for of substance abuse and dependence than the Kentucky Needs Assessment Project (KNAP) 2004 Adult Household Survey. There are several key differences between these surveys which may account for the difference in estimates. First, the NSDUH used a face-to-face interview where selected individuals were contacted by letter, and then interviewed. The participants were then paid for their time. In the KNAP 2004 Adult Household Survey, participants were not contacted before their interview call, nor were they paid for their survey participation.

The higher prevalence rate for face-to-face interviews such as the NSDUH is supported by other research that has shown, in general, that individuals tend to underreport drug or alcohol use over the telephone than in face-to-face interviews[11]. There are several potential reasons for these differences. Face-to-face contact often allows interviewers to probe for more complete answers. In addition, the anonymity of phone interviews may free participants from feeling the obligation to be truthful[12]. Finally, a participant may be put more at ease about the confidentiality of their responses in a face-to-face setting[13]. Reporting differences between the two interview styles have usually been shown to be small to non-significant[2]. However, the NSDUH provided monetary compensation ($30 per respondent) which may have increased motivation as well as providing a higher response rate[14]. The weighted interview response rate for the NSDUH was 76% compared to the 34% response rate in this survey. Additionally, the number of adult subjects used in the 2003 NSDUH Kentucky estimates was 602 respondents compared to the 4,210 respondents stratified across the 14 MHMR regions used in this report. In the NSDUH up to two respondents were used per household.

Despite showing lower prevalence rates than the national survey would suggest, the KNAP 2004 Adult Household Survey showed virtually identical results when compared to the KNAP 1999 Adult Household Survey (See Section 10, Tables 1-11). This suggests

consistent patterns of prevalence in the state of Kentucky, as well as supports the methodology's overall reliability. In addition, the Needs Assessment interview is based largely on the CSAT protocol, which has shown good validity and comparability with the 1999 Kentucky Needs Assessment Survey. The CSAT questionnaire was developed by the Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Substance Abuse Treatment. The similarity of the current survey with past results, as well as the validity of the survey's source material, provides strong support for the 2004 Kentucky Needs Assessment results.

This study has added more criteria for estimating treatment need. Previous studies have only indicated treatment need as being if a person meets the requirements for abuse or dependence, or has sought treatment. This may not be adequate in defining where treatment needs exist. By including populations such as pregnant women that have used drugs or alcohol in the past 30 days, or people who use drugs or alcohol despite admitting to having a problem with it, this survey can reflect treatment need more accurately and comprehensively.

The National Comorbidity Survey Replication

The National Comorbidity Survey Replication (NCS-R) is another national study using a structured face-to-face interview[15]. The NCS-R was conducted from 2001 to 2003. Results from this survey are more similar to the findings in the KNAP 2004 Adult Household Survey than the NSDUH[16,17]. The instrument used for the NCS-R took an average of 2.5 hours to complete and respondents were paid $50 for a completed interview. The limitations of the NCS-R survey are similar to those of the NSDUH.

APPROACH

The KNAP 2004 Adult Household Survey was based on the last KNAP Adult Household Survey conducted in 1999. This survey used trained interviewers at the University of Kentucky Survey Research Center (UK-SRC) to conduct telephone interviews with respondents in personal households using random digit dialing. This sample excluded group homes, halfway houses, shelters and other group living facilities that were included in the National Survey on Drug Use and Health. This study excluded those sites because they were considered treatment facilities or facilities for persons with identified risk since surveying persons in these settings would over estimate prevalence. The interview content was very similar to that used in the 1999 survey to examine experiences with tobacco, alcohol, marijuana, and other drugs. A stratified sampling plan was followed.

Sampling Design

Kentucky substance use treatment services are administered throughout Kentucky's 14 Mental Health and Mental Retardation Regions (MHMR). Each of these regions was considered a primary sampling unit. In order to obtain a cost-effective sample, sample sizes were determined in order to make valid estimates of treatment need in each region.

Like the 1999 survey, the 2004 survey distributed calls equally among the 14 MHMR regions.

The target population of the survey was a sample of 4,210 adults 18 years old and older. A minimum of 286 completed assessments were obtained from each region. The 286 interviews were targeted for each of the 14 regions to facilitate developing direct estimates of treatment need at the regional level. Over sampling of Fayette and Jefferson counties, Kentucky's most populated areas, were completed to reach a minimum of 286 subjects for these two counties. Specific comparisons between Fayette and Jefferson Counties can be found in Section Eleven.

The original sample consisted of 4,200 participants. Of those participants, five were excluded by the interviewer for the quality of the interview. Fifteen other interviews of Spanish-speaking persons were completed, with the assistance of a translator. This resulted in a final sample of 4,210 completed interviews.

4,200	Original Sample
+ 15	Spanish-speaking
- 5	Excluded
4,210	

Kentucky households in each region were contacted using random-digit dialing. This ensured that every residential phone, listed or unlisted, had an equal probability of being selected. Only one person per household was included. In the case where there was more than one eligible participant, the person with the most recent birthday was asked to complete the survey. The interviews were designed so that equally reliable calculations could be made in each region. However, the demographics for each region are not equal. In order to compensate for this difference standard weighting was used to more accurately depict the regional population of Kentucky.

Weighting

Standard weights were based on region, age, and gender. For each group, the estimated percentage of persons who met those criteria was divided by the percentage of persons who met those criteria in the survey. For example, in developing the weight of subjects for 30 to 39 year old males in the Seven Counties region, the estimated number of 30 to 39 year old males in Seven Counties was divided by the estimated number of adults living in Kentucky. This result was then divided by the percentage of 30 to 39 year old males in the survey that were residents of Seven Counties region, which was computed by taking the number of 30 to 39 year old male subjects living in the Seven Counties region who participated in the survey divided by the total number of subjects in the survey as:

$$\frac{\text{Demographic Population Estimate / Total State Adult Population}}{\text{Demographic Number in Sample / Total Sample}}$$

The resulting weighted distribution of subjects used in the survey was identical to the distribution of these variables in the state population. State estimates were derived from the US Census 2003 population estimates for Kentucky[18]. This method of estimation has been shown to be accurate, and comparable to results provided by direct samples[19]. In a study done by Ciarlo and Tweed[20], similarly weighted estimates were shown to be highly correlated with ecological and census indicators for a study on alcohol abuse and dependence in Colorado and Delaware.

Data Collection

The KNAP 2004 Adult Household Survey generally followed the CSAT protocol. This was used because of comparability to the 1999 KNAP Adult Household Survey and to other state needs assessment studies, and to its validity. The 1999 survey was a modified version of that used in the 1995 KNAP Adult Household Survey and the National Technical Center for Substance Abuse Needs Assessment (NTC). However, questions were eliminated. This was to decrease the interview time and therefore decrease the number of incomplete interviews. A copy of the instrument is attached as Appendix A. The instrument included:

- An introduction that gave the study purpose, provided for confidentiality and consent, and effected random selection of an eligible respondent when more than one adult resided in the home;
- Demographics including date of birth, gender, race/ethnicity, educational attainment, employment status, public assistance status, marital status, household income, past year pregnancy status (for females < 45 years old); self-assessed physical and emotional health; and treatment history for emotional problems.
- Lifetime, past year, and past month use of tobacco, alcohol, marijuana, hallucinogens, cocaine/crack, heroin/opiates, and other substances;
- Questions to assess dependence or abuse of drugs and/or alcohol;
- Substance abuse treatment history;
- Unmet demand for treatment; and,
- Interviewer assessments of respondent attitude (suspicious, nervous, impatient), honesty of respondent and overall quality of the interview.

Telephone interviews were conducted from May 13, 2004 through September 9, 2004. The University of Kentucky Survey Research Center, which has collected data for each of the surveys conducted for the Kentucky Needs Assessment Project, used a computer-assisted telephone interview (CATI) format to collect survey data. After pilot testing, UK-SRC interviewers called and screened randomly selected households using random lists of telephone numbers for each sampling unit (MHMR Region) that had been pre-screened to reduce the proportion of non-working and non-residential numbers. Eligible respondents were permanent residents of Kentucky who were at least 18 years old and who lived in a randomly selected household. In situations where more than one member of the household was eligible for the survey, the interviewer asked to speak to the adult who had the most recent birthday. This process helped assure random selection of adults within the selected households. When necessary, the interviewer arranged callbacks.

Interviews were primarily obtained from English speaking persons. Interviews were conducted in Spanish for the 45 households that did not speak English. Of the 45 Spanish speaking households, 15 agreed to participate in the survey. There was only one household contacted in which no one spoke English or Spanish.

The study was explained to each respondent and questions were answered. Verbal consent was obtained. Maintaining confidentiality was stressed to protect the respondent's right to privacy and to assure data quality. If the interviewer was not certain the conversation could be conducted in private, the interview was terminated and the data discarded.

The interviewers from the University of Kentucky Survey Research Center (UK-SRC) who conducted the survey received extensive training in standardized interviewing techniques. During the initial interviews, work was monitored closely until satisfactory performance was achieved. At the beginning of the study, interviewers were required to attend a four-hour project orientation in which goals were clarified, questions were read aloud and discussed, and every interviewer conducted mock interviews until all questions were answered. Extra supervisors were hired during the initial calling shifts to help provide monitoring until all interviewers completed several interviews.

Data were entered directly in the CATI system at the time of the interview which allowed for constant productivity and quality monitoring. After data were coded at the end of each survey week, data were sent to the UK Center on Drug and Alcohol Research where preliminary analyses were conducted using SPSS v13.0. In the early stages of data collection, these preliminary analyses focused on identifying unexpected answer patterns that might indicate potential problems with question wording or other issues that could interfere with data collection.

Non-response is an ongoing concern for any survey. In order to maximize participation among eligible potential subjects, procedures were used to enhance cooperation. Interviewers were trained to be sensitive to the concerns of respondents about the study goals. Up to 15 attempts were made. In addition, up to 10 scheduled call-backs were made to those reached at an inconvenient time. If an eligible respondent refused a second time, the household was not contacted again. The interview response rate was about 34%.

Data Analysis

Data analyses were conducted following an estimation study design to develop detailed demographic distributions of prevalence estimates. The analyses were conducted using statistical software (SPSS v13.0). The approach used to develop these demographic distributions is summarized below.

Statistical Methods for Determining Prevalence Estimates

The integrity of the dataset was initially examined. The dataset had no missing values, because all interview data were recorded electronically at the time of the interview and all

items were completed. Demographics for age and gender by regional total were developed. Each of the 69 core variables was examined looking at their frequencies in terms of the appropriate demographics. For example, lifetime use of cigarettes was examined. Participants were asked if they had ever smoked a cigarette in their lifetime. These data were stratified by gender, so the percentage of males who smoked in their lifetime was compared to the percentage of lifetime use for females. A frequency that was stratified by age is the analysis of the variable that examined lifetime alcohol and drug use in combination. In that question, participants were asked if they had ever used alcohol and drugs in combination. The sample was initially partitioned into males and females of different ages: 18 to 29, 30 to 39, 40 to 49, 50 to 59, 60 and older. This allowed for the examination of drug and alcohol combination among the different age groups, as well as by gender.

Limitations

Prevalence estimates of substance abuse and dependence and of certain drug-related behaviors and attitudes among adults in Kentucky that are presented in this report can be useful for policy for planning adult substance abuse services. However, limitations should be considered when interpreting findings. Specifically, only respondents in residential households were sampled and included. Consequently, the findings from this study can only be generalized to adults residing in Kentucky households, and not to those in institutional, dormitory or group home settings. Since it isn't possible to determine the county of origin for group setting residents, the weighting described above included all persons of residence for that county as listed by the US Census.

A potential source of bias in any survey is the understatement or overstatement of actual behaviors. The validity of self-report data depends on the honesty, memory, and understanding of the respondents. While individuals generally underreport behavior that they perceive as sensitive or unacceptable, respondents may exaggerate or boast about certain behaviors. Although the protocol for this survey was designed to encourage truthfulness, some over-reporting or under-reporting could have occurred. Overall, the prevalence estimates from this survey are expected to be conservative.

U.S. Census Bureau population estimates that were used are subject to error, especially toward the end of the decade. Also, it should be noted that the cross-sectional nature of the data limits the capability to infer causal relationships. Despite these limitations, this kind of survey is the only practical method for estimating the prevalence of these kinds of behaviors.