

**ASKING ABOUT DRUGS AND DRUG DEPENDENCY:  
REPORTS OF DRUG USE AND THE MODE OF QUESTIONNAIRE  
ADMINISTRATION**

**David W. Keer, NCHS, Benjamin Rowe, University of Michigan,  
Stewart C. Rice JR., NCHS, Deborah Bercini Trunzo, NCHS**

**David W. Keer, National Center for Health Statistics,  
6525 Belcrest Road, Room 850, Hyattsville, MD 20782**

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In 1990, the Division of Health Interview Statistics (DHIS) at the National Center for Health Statistics (NCHS) was assisted by NCHS's Questionnaire Design Research Laboratory (QDRL) in the development and testing of a questionnaire to assess relationships between use of cocaine and marijuana and various health status indicators. Through rigorous probing about items in draft versions of the questionnaire, potential sources of recall error, factors likely to cause other reporting errors, and potential problem areas in the collected data were identified. In this paper, we will look at the usefulness of a small number of focused interviews in helping us anticipate problems in the data collection effort. Then, we will consider the impact of administration techniques on the collection of data about sensitive behaviors. Finally, we will discuss directions for future analyses.

**BACKGROUND**

The Division of Health Interview Statistics collaborated with the National Institute on Drug Abuse (NIDA) on the development of the 1991

drug-use supplement for the National Health Interview Survey (NHIS). The DHIS was assisted in its work by the Questionnaire Design Research Laboratory (QDRL) at NCHS. The NHIS is a household survey of the civilian, non-institutionalized population of the U. S. The NHIS obtains extensive information about the health of respondents; obtaining drug use information in the supplement to the NHIS provides an opportunity to examine the association of drug use and health status. The drug-use supplement asks about use of marijuana and cocaine among persons 18 years of age and older. For individuals who report using marijuana and/or cocaine, data are collected on age of first use, recency of use, and various problems with school, work, or home-life that may indicate drug dependency. As with all supplements to the NHIS, the drug-use supplement can be linked to the general health data to allow extensive analysis.

The questionnaire used as the initial model for the drug use supplement was the 1988 National Household Survey on Drug Abuse (NHSDA). In 1988, NIDA sponsored the NHSDA, with additional support from the

National Institute on Alcohol Abuse and Alcoholism. Support also came from the Department of Education. NIDA has sponsored the NHSDA for over 10 years; the NHSDA is now fielded annually. The NHSDA interview is administered by an interviewer making a personal visit to the household of the respondent. The NHSDA is intended to collect information about the amount and frequency of drug use that the respondent has engaged in during his or her lifetime, during the year prior to the interview, and during the 30 days prior to the interview. The drugs that are asked about in the NHSDA include marijuana, cocaine, inhalants, hallucinogens, heroin, nonmedical use of prescription psychotherapeutic drugs, alcohol, cigarettes, and smokeless tobacco. Each drug is covered by its own set of questions.

**TESTING PROCEDURES AND PROBLEMS UNCOVERED - QUESTIONNAIRE RELATED**

In testing the NIDA supplement, we were concerned with questionnaire design issues and nonresponse issues. The questionnaire design issues related to time frames within questions, the comprehensibility of terminology, the clarity of question wording, and relevance of the concepts to drug users. The primary concern regarding nonresponse was the degree to which respondents would refuse to answer particular questions or would give false answers. Concerns about nonresponse arose because of the sensitive and illicit nature of the

behaviors being studied.

The design and testing of the questionnaire itself was an iterative process consisting of two major waves of in-depth interviews. Some interviews were conducted at a local drug rehabilitation clinic (DICAP) to assure a pool of subjects who had extensive drug-use experience, especially with marijuana and cocaine. Many problems within the questionnaire related to the difficulty of converting the clinical criteria for determining drug dependency, as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)<sup>1</sup>, into discrete, functional questionnaire items. The DSM-III-R provides general criteria for a diagnosis of drug dependency. The textbook clinical criteria for determining drug dependency did not always resonate with the experience of drug users we interviewed. Intensive interviews made it possible to rewrite some questions so that those questions would be more specific and pertinent to the experiences of respondents who had used marijuana or cocaine<sup>2</sup>.

In the testing with drug users at the drug clinic and in the QDRL at NCHS, we found that questions must be as brief, uncomplicated, and non-repetitive as feasible. Especially for users of multiple drugs, short attention span and boredom could be a factor in nonresponse and providing inaccurate information. We found that some heavy drug users have impaired attention spans, even if they are willing respondents. If the NHIS respondent for the NIDA

supplement has already been administered the core or other supplements, fatigue and boredom will interact to increase response errors. In this regard, the tedium associated with a repetitive series of questions on the impacts of marijuana and cocaine may impair data quality.

On a more technical note, we also found some problems associated with the use of skip patterns in a self-administered questionnaire. This is, of course, a problem that has been apparent in other self-administered questionnaires. In our one-to-one interviews, we noted that many subjects found the skip instructions confusing. Skips are useful in guiding respondents past inapplicable material; indeed, some questions are difficult to answer without appropriate skip instructions. Also, Census Bureau, NIDA and NCHS staff agreed that forcing non-users to answer 90 questions about drug use imposed an excessive burden.

We considered various alternatives for use of skip instructions in the questionnaire. Many skip instructions were used in the questionnaire during the first field pretest; this provided another opportunity to accumulate data about the design of the questionnaire. Based upon a review of the field test questionnaires, it was apparent that most respondents were unable to follow routine skip instructions, and the questionnaire was revised. For the second field test, only two skips were used and those were designed to skip

nonusers of marijuana and/or cocaine past the impact questions about the specific drug. The skips were set on a separate page in typeset that was significantly larger and bolder than the print used in the remainder of the questionnaire.

Based upon the second field test, most respondents seemed able to follow the larger and bolder skip instruction. The final version of the questionnaire contained four skip instructions. Again, nonusers of marijuana and/or cocaine are skipped past the impact questions about the specific drug. Two other skip instructions allow respondents who have not used a particular drug within the past 12 months to skip some of the impact questions.

#### PROBLEMS UNCOVERED NONRESPONSE ISSUES

The cognitive interviews highlighted two major sources of potential bias due to nonresponse. First, because of perceived risks of detection, some drug users will lie about their drug use or will refuse to respond. Second, it is apparent that denial is inherent to some heavy drug users, especially denial of the impact of drug use on the user's life; a user will be unable to report behaviors that he is unable to acknowledge to himself. Given that this survey is about illegal drug use, that the HIS interview is not anonymous, and that clinical intervention would be needed to overcome the effects of denial, there is no known method to assure complete and accurate reporting. As a result, we

advised that data obtained from the drug-use supplement must be interpreted very cautiously and compared to data from other sources.

Based upon our clinic interviews, it appears that the most reliable reports of drug use will be those reports of behavior in the more distant past. Because the clinic's clients have been in a clinical program that sensitizes them to the effects of denial, we think their experiences with drug use and recovery make them good consultants on the issue of reporting drug use. For both marijuana and cocaine, our subjects expected that most former users will be willing and able to report accurately. In part, as one subject said, "there's nothing to lose" by telling about past drug use. Also, as almost all of our respondents emphasized, the former user is least likely to be clouded by denial or the paranoia sometimes caused by drug use.

The drug clinic clients we interviewed were evenly divided about the types of reporting we could expect from current users of marijuana. Regardless of the level of marijuana use, half of our subjects expect that we will receive honest reports and half expect that users will lie about the amount or impact of use. At the other end of the spectrum, our subjects almost unanimously expect that current regular users of cocaine will lie, either by denying use or by underreporting. The media attention to the illegality of cocaine use, the paranoia that the drug induces in heavy users, and the impact of

denial to oneself would result in gross underreporting. DICAP subjects expressed doubt that heavy users would participate in the NHIS at all. Our subjects were somewhat more hopeful that we would get better reports from very casual users of cocaine, especially from the "party user" who can rationalize drug use as a minor recreational activity.

Finally, based upon the in-house and DICAP interviews, it appeared desirable to have the respondent return the drug-use supplement to the interviewer in a sealed envelope. Several of our subjects suggested that we use a sealed envelope; this suggestion was made even though the subjects realized that the interview was confidential but not anonymous. It appears that a sealed envelope underscores that the respondent's answers will be treated as a private matter. Also, a sealed envelope return eliminates the possibility that another household member might see a completed drug-use questionnaire. The sealed envelope return could help reduce nonresponse.

#### **POTENTIAL ANALYSES AND FUTURE DIRECTIONS**

At the present time, we have been able to look only at raw data for the first quarter of 1991. It does appear that one receives some reporting of drug usage even under conditions that are not anonymous. The NHIS drug-use supplement was administered to sample persons between the ages of 18 and 44 (inclusive); in residences without anyone in that age range, the

supplement was not administered. When the data is fully processed, extensive analysis can be done.

In addition to using the collected data from the NHIS-3 for topical analysis, the data can be used to gauge the effectiveness of a self-administered confidential questionnaire for collecting honest reports about drug use from reluctant respondents. To evaluate the effectiveness of the NHIS-3 questionnaire, several methods will be used in the near future. A major tool will be the data from the NHSDA drug use survey that is collected during the same time period. Some comparison can be done between the HIS-3 data and the NHSDA data to see whether the mentions of marijuana and cocaine use in the HIS-3 are above or below what would be expected given estimates from the NHSDA.

We are very interested in response rates, although a comparison of the response rates between the NHSDA questionnaire and the HIS-3 questionnaire is a challenge for a number of reasons. The NHSDA is a household survey conducted by interviewers that are working for a contract research agency, while the HIS-3 is conducted by Census interviewers. The HIS-3 is administered to the respondent after the interviewer has administered an extensive personal interview within the household. While the context would provide the interviewer with a rapport that would not have been established by the NHSDA interviewer during the administration of the NHSDA questionnaire, the length of the core and HIS-2 might impact upon completion of the

HIS-3. Finally, the HIS-3 is administered under conditions of confidentiality while the NHSDA questionnaire is administered under a guarantee of anonymity.

While we cannot directly compare response rates, we can learn about nonresponse within the drug-use questionnaire itself. Since the drug-use questionnaire is administered after other NHIS questionnaires have been administered, it will be possible to look into some of the characteristics of non-respondents. Clearly the characteristics of those respondents that do not respond to any of the NHIS will be unknown. Those sample persons who are listed in the household roster obtained early in the NHIS interview, but who do not respond to the drug-use supplement, could be described in great detail. There may be some clues to who chooses to respond to a self-administered drug use questionnaire if the data in the NHIS core interview is used to compare those respondents who did respond to the drug-use questionnaire with those who did not.

The HIS-3 also collects information from the interviewer about the interview mode. The interviewers are asked to choose one of four defined modes of the HIS-3 interview. From the interview mode, we should be able to get a rough idea of how a respondent reacts to the administration of the HIS-3. The administrative procedures for the HIS-3 were designed to encourage the respondent to fill out the questionnaire as truthfully as possible. By

correlating the mode of interview with the number of drug use mentions, we can get an idea of how the administration of the interview influences the mentions of drug use by the respondent.

#### **NOTES**

1. The first edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders appeared in 1952. The second edition of the manual went into effect in 1968, the third edition appeared in 1980, and the revised version of the third edition was published in 1987. The DSM-III-R provides a classification of mental disorders; according to the manual's introduction, it is "descriptive in that the definitions of the disorders are generally limited to descriptions of the clinical features of the disorders." The DSM-III-R provides specific diagnostic criteria and is intended to be used in clinical or research settings.
2. For intensive cognitive interviews, the QDRL at NCHS usually employs a script, or protocol, to assist in guiding the interview. The protocol specifies particular questions

that the interviewer should address and provides probes that the interviewer can use. The final protocol for the interviews about the drug-use questionnaire also was designed to gauge the opinions of subjects regarding the likelihood that drug users who were respondents to the NHIS would give honest answers to the questions about drug use.

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