1. INTRODUCTION

This report has been prepared by Westat for the U.S. Department of Veterans Affairs (VA), to document the methodology employed for the 2001 National Survey of Veterans (NSV 2001). In this first chapter, we present a comprehensive overview of the procedures we used to design and carry out the survey. The remainder of the report provides details on the survey design, data collection and quality control procedures, sample weighting, management of the database, and field results. Chapter 2 focuses on questionnaire development, including the impact of previous versions of the NSV, policy changes, and results of the 1992 National Survey of Veterans Utilization Study. We describe the sample design, selection, and management in Chapter 3. In Chapter 4, we discuss interviewer recruitment and training procedures, including details of the initial project-specific training and specialized training (e.g., refusal conversion, proxy interviewing) that took place after data collection began. Chapter 5 summarizes data collection procedures, including the computer-assisted telephone interviewing (CATI) system, interviewing operations, and special data collection operations such as proxy interviewing and tracing. In Chapter 6, we describe the construction of the sample weights used to properly expand responses of the sampled veterans to the population that the sample was selected to represent. Chapter 7 presents the quality control procedures we implemented throughout the various phases of the survey. Finally, we summarize the survey field results in Chapter 8. Appendixes A, B, and C contain the RDD screener questionnaire, List Sample verification question, and extended interview questionnaire. A list of frequently asked questions used by interviewers to address respondent concerns appears in Appendix D. Appendixes E and H are the NSV 2001 response categories and final result codes. Appendixes F and G describe the Chi-square Hierarchical Automatic Interaction Detector (*CHAID*) software and the raking procedures used for the NSV 2001.

1.1 Study Background

The 2001 National Survey of Veterans is the fifth in a series of periodic comprehensive surveys conducted by the VA with a national sample of all eligible veterans. The previous surveys were conducted in 1978, 1979, 1987, and 1993. All five surveys cover a full range of topics about VA benefit programs and services. Much of the information in these surveys is not available from any other sources that collect information about veterans, including VA administrative files and the U.S. Census of Population and Housing.

Since the 1992 NSV, the VA has undergone significant administrative change. In response to the Veterans Health Care Eligibility Reform Act of 1996, the Veterans Health Administration (VHA) reconfigured its health care system to eliminate any distinction between inpatient and outpatient care and to make primary care its major area of emphasis in meeting the health care needs of veterans. This legislation also established two health care eligibility categories and seven health care enrollment priority groups. The Veterans Benefit Administration (VBA) has experienced similar administrative reforms since the 1992 NSV. In order to plan for and evaluate the newly reconfigured health care services, programs, and policies, the VA, VHA, and VBA needed up-to-date information about the veterans they serve.

The NSV 2001 provides the VA with extensive data about veterans' military background, education and training, health care usage, and understanding and use of a broad array of VA benefits. Using these data, the VA can follow changing trends in the veteran population, compare the characteristics of veterans who use VA programs and those who do not, and perform policy analyses. The data also provide information about issues that have a direct impact on veterans, such as eligibility and health care reforms. Finally, the NSV 2001 provides information relevant to planning and budgeting VA programs and services for veterans in general, as well as for certain veteran subgroups of particular interest.

1.2 Questionnaire Design

The final NSV 2001 questionnaire reflects the needs and contributions of many VA stakeholders. It addresses the larger national agenda, current legislation about who qualifies for VA benefits, and recent developments within the VA. At the same time, it remains comparable to previous national surveys of veterans. The NSV 2001 draws on the 1992 NSV, the Department of Veterans Affairs Strategic Plan (FY 1998-2003), and the 1992 National Survey of Veterans Utilization Study conducted by Westat with numerous VA stakeholders between January and March 1999.

From the Utilization Study, we knew that data users wanted more detailed information about veterans who do not use VA programs, veterans' unmet needs, their future plans for using VA benefits, and their communication preferences. The new financial eligibility guidelines for certain VA programs and legislation expanding the definition of who qualifies for benefits created the need for more information about veterans' financial status and military

background. Data users also expressed the desire for more detailed information about veterans' health status, health insurance coverage, health care preferences, and use of medical facilities. The VA and Westat began refining these and other broad research questions into a workable survey instrument in September 2000. As part of this process, we took into consideration several practical issues:

Computer-assisted Telephone Interviewing (CATI) Technology. Using CATI technology, we were able to incorporate complex skip patterns into the questionnaire design.

Data Collection Mode. We accommodated the demands of telephone interviewing by ensuring that questions were easy to comprehend, that lists of response options were short but not unduly restrictive, and that the average questionnaire administration time did not exceed 30 minutes.

Sample Design. We implemented a dual frame design. One frame was a random national cross section of veterans drawn using a household screening questionnaire from a random digit dialing sample of telephone numbers (RDD Sample) and the second frame was a random sample from VA administrative files (List Sample).

Respondent Cognitive Ability. We accommodated veterans' varying abilities to answer survey items, including the likelihood of either having the requisite personal knowledge or the capacity to remember past events in their lives.

The final NSV 2001 instrument collected information about each respondent's military background and sociodemographic characteristics. As well, within each of six benefit modules (Health Care, Disability, Mortgage Loan, Life Insurance, Education and Training, and Burial Benefits), the survey asked about veterans' perception of need for the benefit and their recent use of the benefit. The survey also asked about other sources of assistance they used, access and barriers to use of the service, their unmet needs, future plans to use benefit programs, and how they prefer to receive information about the service. Finally, the NSV 2001 included a separate module about veterans' communication needs. This last section, a new feature of the NSV 2001, asked about veterans' recent need for VA information, preferred media, and access to and use of the Internet.

In addition to the modular questionnaire that addressed substantive topics of interest (hereinafter referred to as "the extended interview"), we designed a preliminary screening questionnaire to determine whether any member of an RDD Sample household was a veteran. Because List Sample veterans drawn from the VA files were, by definition, eligible for the survey, it was unnecessary to conduct the screening part of the interview with them. Instead,

verification procedures were established to ensure that contact was made with the correct sampled veteran.

1.3 Sample Design, Selection, and Management

Sample Design

A primary VA research objective was to obtain sufficient data from a cross section of the veteran population, from each of the seven VA health care enrollment priority groups, and from population subgroups of particular interest (female, Hispanic, and African American veterans). The VA specified 95 percent confidence intervals of ∀5% for estimates of proportion equal to 0.50 for each of the above cells. To meet these objectives, Westat designed a sampling plan that called for the completion of 13,000 veteran extended interviews from randomly selected households (RDD Sample). This was augmented by 7,000 veteran extended interviews completed from a List Sample selected from the VA administrative files. By completing 20,000 veteran interviews from these two samples, we fulfilled most of the VA precision requirements.

Sample Selection

The project team prepared estimates of the number of cases in each type of sample that would be needed to yield the desired number of completed interviews. For the RDD Sample, the sampling unit was the randomly selected telephone number. Therefore, these estimates included the historical rate of residential numbers among randomly sampled telephone numbers from a list-assisted RDD sampling frame. Other factors that affected the sample estimates were the expected success rate in contacting and completing a screening interview with the households, the estimated percentage of households with at least one veteran, and the expected cooperation rate among identified veterans. Based on these estimates, we selected a sufficient sample of telephone numbers from the national sampling frame using a list-assisted RDD sampling methodology. In addition, a Puerto Rico sample was selected using a naïve approach called "RDD element sampling."

For the List Sample, we created a frame from two VA administrative files: the Health Care Enrollment File and the Veterans Compensation and Pension (C&P) File. From the total of 4.5 million veterans on the list frame, a stratified systematic random sample was drawn of veterans belonging to the mandatory health care enrollment priority groups (groups 1 through 6).

Sample Management

In managing the survey sample, we ensured two things: first, that the sample was truly representative of the universe that defined it, and second, that we reached, as closely as possible, the target quotas for each sample stratum. To achieve these goals, we monitored cases during data collection, evaluated sample yields against expectations, refined interviewing strategies, and adjusted assigned sampling rates as needed to meet the targets. As data collection progressed, our ability to project the number of cases needed to meet our targets became more precise. We periodically reprojected yields based on reports comparing actual sample performance to the original yield projections.

1.4 Interviewer Recruitment and Training

The interviewers we employed to conduct the NSV 2001 received 20 to 24 hours of training in areas specific to the NSV 2001 project, including questionnaire content, sample design, contact procedures, call results recordkeeping, problem documentation, and refusal avoidance. In addition, before project-specific training, they received 8 hours of training in general telephone interviewing techniques and use of the CATI system. Because calls to List Sample veterans did not begin until several weeks into data collection, List Sample contact procedures were covered in a supplementary session instead of during the initial training. The principal training tool was scripted interactive exercises. Interviewers were not assigned to live interviewing until they had successfully completed these exercises. Throughout the data collection period, we held specialized training sessions on such topics as interviewing proxies, converting refusals, tracing List Sample veterans, and conducting callbacks to retrieve missing data. Additionally, telephone center supervisors monitored on average approximately 8 percent of all interviewing hours.

1.5 Data Collection

Westat collected the NSV 2001 data from February 12, 2001 through November 12, 2001. As stated above, we used CATI technology to administer the questionnaire. The following

sections describe the CATI methodology we used, along with special features and operations that supported the data collection effort.

CATI System

The NSV 2001 CATI system was a customized version of Westat's Cheshire CATI system, a state-of-the-art data collection tool developed and refined by Westat programmers over the past 20 years. After designing the questionnaire and sample, we developed detailed programming specifications to create the CATI software that would operate the screener and extended instruments, the database for recording the response data, and the case management, contact, and call scheduling modules. A systems analyst led a team of programmers in writing and testing the code, with a final round of testing after all modules of the system were integrated. The database administrator, the questionnaire design team, project management staff, and telephone center personnel also tested the system.

The system supported both general data collection requirements and the special needs of the NSV 2001. For administering the substantive questionnaire, we programmed the NSV 2001 CATI system with online range checks for all variables, internal consistency checks between various responses, and detailed probes for the interviewers to present to the respondent when checks failed. The CATI case management function allowed us to, among other things, control the release of the sample in waves and automatically hold refusal and proxy cases until a designated release time. Contact modules allowed interviewers to record and handle appointments, messages, and problems, as well as verify contact with the intended List Sample veteran. The CATI call scheduling system contained detailed rules and algorithms for prioritizing and assigning cases to be worked. These rules took into consideration time of day and day of the week, callback appointments scheduled, call history of the case, type of interview, and special interviewing skills required.

Telephone Interviews

Telephone interviewing for the NSV 2001 took place in six of Westat's telephone research centers. Together, the facilities contained approximately 240 telephone interviewing stations, all fully supported by the central CATI system. Approximately 300 interviewers participated in the NSV 2001 data collection. The interviewing operations were managed by a telephone center operations manager, while a group of team leaders were responsible for the daily

operations in the telephone centers. Using silent monitoring stations from which to hear an interview and follow it on a CATI terminal, the telephone center project manager and team leaders continuously assessed and reassessed interviewer performance to ensure high quality data collection. VA representatives and Westat project managers also monitored interviews during training, the pretest, and main data collection. Monitoring was the basis for direct feedback to each interviewer on his or her performance and any areas needing improvement. It also provided project staff with ideas for improving the questionnaire and survey procedures after the pretest.

Various aspects of the NSV 2001 interview required particular skills. For example, specially trained interviewers administered the RDD household screener when we encountered language problems. We trained other interviewers to identify and interview a knowledgeable proxy when a veteran was unable to respond for himself or herself because of illness, communication problems, or physical or mental incapacity. We also trained a subset of interviewers to administer a short data retrieval questionnaire to certain households that had already completed the NSV 2001 screener but had missing data regarding eligibility.

Special Data Collection Operations

To increase response rates, and to ensure that we interviewed the correct sampled veteran, Westat put into place a variety of special data collection operations. We sent all List Sample veterans an advance letter to inform them of their selection to participate in the survey, explain its purpose, urge their cooperation, and establish it as a valid project of the U.S. Department of Veterans Affairs. To improve the likelihood of locating and contacting the List Sample veterans, the advance letter listed the addressee's current contact information and included a form and business-reply envelope that the recipient could use to update the contact information. We also provided a toll-free number for the veteran to call with their contact information, questions, or concerns. Other mail operations included mailout of a background letter for RDD Sample cases who requested a written explanation of the survey before proceeding (and for List Sample cases who did not receive their advance letter), and refusal conversion letters for RDD screener refusals and any extended interview refusals for which we could obtain an address.

We further assigned teams of interviewers to carry out special purpose interviewing efforts. They conducted refusal conversion attempts on RDD screener and extended interview refusals who were not hostile. As mentioned above, we also assigned a small group of highly

skilled interviewers to contact people who had previously been identified as likely proxies for veterans who were not capable of responding to the interview. Finally, we kept a special tracing operation in place throughout the data collection period. Whenever we discovered that a List Sample veteran was not at his or her last known telephone number or address, the case was sent through one or more steps to locate the veteran.

1.6 Sample Weighting

After we collected, edited, and cleaned the survey data, we constructed sampling weights so that the responses of the sampled veterans could be properly expanded to represent the entire veteran population. The weight calculations took into account the original selection probability, nonresponse, households with multiple residential telephone lines, and undercoverage due to the omission of nontelephone households and households with unlisted telephone numbers belonging to "zero-listed telephone banks" not covered in the list-assisted RDD methodology. We computed the weights separately for the List Sample and the RDD Sample so that, when fully weighted, the List Sample would represent the veterans from whom the sample was drawn, and the RDD Sample would represent the entire population of veterans. The RDD and List Samples were combined to construct a single database with composite weights. The composite weights are adjusted weights that reflect the increased chance that a veteran on the list sampling frame has of selection.

1.7 Quality Control

Rather than relying exclusively on external or after-the-fact quality control procedures, Westat built quality control into the survey operation itself. For example, we programmed real time, online data control into the CATI instrument. Our interviewer training and monitoring procedures also added extra measures of quality to the operation. Whenever possible, tasks were automated. To assure quality control in the automation process itself, every system and program, once implemented, was tested, revised, respecified, and retested. We also subjected sample selection and management tasks to rigorous quality control checks. The database manager prepared and edited all data, coded open-ended responses, handled and documented special problems, and produced the final clean data files for weighting and analysis.

A key quality control measure was a pretest we conducted at the start of data collection. We analyzed the data collected from the first 519 completed RDD extended interviews in order to test:

Questionnaire design, content, wording, and structure;

Length of interview administration;

The functioning of the computerized CATI questionnaire and the CATI case management and call scheduling software;

The interviewer training process; and

The interviewing process itself.

Based on this analysis, we modified our yield assumptions to reflect the actual completion rate, and made slight changes to the interviewer training program to increase focus on areas that presented problems for interviewers or respondents in the pretest. The pretest also revealed that the average length of the interview was slightly over the target of 30 minutes.

1.8 Field Results

The NSV 2001 had a total sample target of 20,000 completed extended interviews. Of this total, 13,000 were to come from the household screening of RDD telephone numbers and 7,000 were to come from the List Sample. We achieved 100.2 percent of the overall target by completing 12,956 interviews from the RDD Sample (99.7 percent of the goal) and 7,092 interviews from the List Sample (101.3 percent of the goal).

As part of the NSV 2001 sample design, we also set interview completion targets by sample stratum for both the List and RDD Samples. The main objective of the List Sample stratification was to augment the sample for veterans in the mandatory health care enrollment priority groups (groups 1 through 6) and for female veterans. We also set List Sample interview targets for Hispanic and African American veterans. The List Sample completion rate for female veterans was 99.1 percent of the target. We achieved 122.9 percent of the target for Hispanic veterans from the List Sample and 156.3 percent of the African American veterans targeted to be interviewed from the List Sample. We exceeded the List Sample targets for four out of the six priority groups. We achieved almost 96 percent of the target for priority group 5. For priority group 4, however, we reached only 59 percent. We attribute this low completion rate to a high

incidence of priority group 4 veterans being institutionalized or deceased, making them ineligible for the survey.

For the NSV 2001 sample design, we set the RDD Sample size targets according to our assumptions about the distribution of the veteran population across various subgroups. However, the observed yields across various subgroups of the veteran population depended on the true distributions and not the assumed ones. For the RDD Sample, each case's stratum was determined by the veteran's responses to the survey questions about the stratification variables (priority group, age, race, gender, etc.). For the female veterans we achieved 105.6 percent of the target. The completion rates for Hispanic and African American veterans were 107.3 percent and 92.2 percent, respectively, of their expected targets.

The average interview time was 4.1 minutes per completed RDD screener household interview. The RDD Sample veterans took 33.3 minutes on average to complete the extended interview, while the List Sample veterans took an average of 38.7 minutes per completed extended interview. We expected the List Sample veterans to take longer to complete the interview because they generally have more medical conditions and medical treatment experiences to report. List Sample veterans were also more likely to have a service-connected disability that required them to complete an additional survey module about that disability.