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2017 Survey of Veteran Enrollees' Health and Use of Health Care

Survey Methodology Final Report

Contract No. GS-23F-8144H

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October 2017

Prepared for:
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Office of Strategic Planning and Analysis (OSPA)
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Background 1

1.1 Overview of the Survey of Enrollees

Since 1999, the U.S. Department of Veterans Affairs' Survey of Veteran Enrollees' Health and Use of Health Care (Survey of Enrollees) has been a primary source of data for understanding who Veterans enrolled in Veterans Affairs (VA) health care are, what influences their health care choices, how they perceive their health status, how they have used the VA over the past year, and how they plan to use it in the future. The Survey of Enrollees is designed to gather information on enrollees that cannot be obtained in other ways. VA's authority to provide care to Veterans through the VA health care system is regulated in part by the Veteran's Health Care Eligibility Reform Act of 1996 (Public Law 104-262). This law implements a priority-based enrollment system for Veterans and gives VHA (Veterans Health Administration) the ability to plan to meet the needs of all enrolled Veterans.

Data gathered from this survey primarily informs the VA Enrollee Health Care Projection Model, used for projecting enrollment, utilization, and expenditures. In addition, these data may be used for a variety of strategic analyses at the Veterans Integrated Service Network (VISN) level, the Market level either within the VISN, or at the National Program Office level.

There have been 15 cycles of the survey (1999, 2000, 2002, 2003, 2005, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015, 2016 and 2017) conducted by the Office of the Assistant Deputy Under Secretary for Health for Policy and Planning. Through 2011, the survey was conducted using a telephone interview. In 2012, a multi-mode design was introduced, consisting of telephone, mail and web data collection. The methodology for 2015, 2016, and 2017 employed web and mail data collection, with emphasis placed on effective strategies for maximizing responses obtained using web technology. In 2016 and 2017, a small number of Computer Assisted Telephone Interviews (CATI) were utilized at the end of data collection in order to meet minimum targets in markets.

This report describes the survey approach and methods for the 2017 data collection period, which covered the period March 29, 2017 through July 17, 2017.

2 History of Methodological Changes

To support the research objectives of the Survey of Enrollees, survey modes, and methods have been examined and adjusted over the years. Since 2007, various methodological changes and experiments have been implemented to enhance survey performance and efficiency. Methodological experiments employed for the 2017 survey, along with a brief history of previous years' experiments and changes, are highlighted below. A detailed description of the 2017 methodological experiments may be found in a separate report, *Survey of Enrollees 2017 Methodology Experiments Report.*

Survey Modes. Since 2012, the Survey of Enrollees has included experiments using multiple survey modes (i.e., telephone, mail, and web surveys). The objective was to determine if response rates could be boosted, or at least maintained, while reducing survey administration costs. Various combinations of modes have been employed and tested as follows:

- Prior to 2012 – Telephone;
- From 2012-2014 – Telephone, Web and Mail; and
- 2015-2017 – Web and Mail.[1]

In 2012 through 2014, two self-administered modes (web and mail surveys) were introduced to supplement telephone surveys.

The 2014 Survey of Enrollees replicated two experiments that were conducted in 2013 to test mode effects. The experiments tested for mode effects among the telephone-eligible population by assigning potential respondents to both telephone or mail modes, and testing the effect of multiple telephone non-responder contacts by sending mail surveys to those non-responders.

Since 2015, the main modes of administration were web and mail. Telephone was planned as a final attempt to obtain participation from non-responders to the first two modes (sequence of modes was web-mail-telephone, as compared to telephone-web-mail in 2014). Due to the success of the web and mail methods, no telephone interviews were necessary in 2015 and an extremely small number

[1] To meet the quota of completes by market, in 2017 a small number of surveys were completed by telephone. Overall, 46 surveys or .1 percent of all completed surveys were conducted using the telephone.

were needed in 2016 and 2017 to meet survey goals. The 2015, 2016, and 2017 administrations of the Survey of Enrollees represented a turning point from the multi-mode sequence used in previous years. A well-planned series of structured techniques was used to encourage as many Veterans as possible to respond using the web.

Reliance Questions. An experimental design was developed in 2017 to determine the accuracy of the reliance questions based on experience from the 2015 and 2016 data collections. The goal of this experiment was to identify the best way to measure Veterans' reliance on VA for their health care. Reliance is measured by asking about the number of VA outpatient visits paid for (fully or partly) by VA versus outpatient visits that VA did not pay for at all (non-VA.) The Wave 1 sample was randomly assigned into either a control condition or one of four experimental condition groups. The control condition group was asked the 2015 survey reliance questions and represented 90 percent of the Wave 1 sample. The four experimental condition groups were comprised of 2.5 percent of the Wave 1 sample. Experimental condition group 1 asked the 2016 survey reliance questions. Experimental condition groups 2, 3, and 4 were asked a variation of the 2015 survey reliance questions. Table 2-1 demonstrates the size and questions asked of each control and experimental condition groups. See the *2017 Methodological Experiments Report* for a more in-depth description of this approach and the findings. All Wave 2 respondents received the Wave 1 control condition version of the questions.

Table 2-1. Wave 1 control and experimental condition group size and reliance questions

	Control Condition	Experimental Condition 1	Experimental Condition 2	Experimental Condition 3	Experimental Condition 4
Sample size	82,410	2,375	2,387	2,367	2,376
Percent of Sample	90%	2.5%	2.5%	2.5%	2.5%
Reliance questions asked	2015 survey reliance questions	2016 survey reliance questions	2015 survey reliance questions with VA and non-VA reversed	2015 survey reliance questions using 3 questions	2015 survey reliance questions first asking about total visits

Sample Stratification. As in 2015 and 2016, stratification by markets was included in the sample design for 2017. The number of sampling strata remained at 576, the same as 2016. A subset of strata was oversampled to achieve the following sample design objectives:

- A minimum effective sample size of 315 completed interviews in each market;

- A minimum effective sample size of 597 completed interviews in each of the collapsed priority groups (1-3, 4-6, and 7-8) in every VISN; and
- A minimum of 30 percent of completed interviews among pre-enrollees (enrolled prior to March 31, 1999).

(**Note:** The effective sample size for a market or a collapsed priority group within a VISN is the number of completes adjusted for the design effect resulting from oversampling.)

Data Collection Period. The Survey of Enrollees' data collection period has fluctuated in recent survey cycles to allow additional time for mail fulfillment to reach all Veterans and maximize response rates. In 2010, the data collection period was extended from 10 weeks to 12 weeks. The 2013 data collection period was extended further to 14 weeks. In 2014, the data collection period was extended to 18 weeks. In 2015, the data collection was completed in 11 weeks. Due to the nature of the methodological experiments, the 2016 data collection period was 18 weeks. In 2017, the data collection was completed in 16 weeks.

Sequence of Contacts. All sampled Veterans were given the same sequence of contacts. Every sampled Veteran was mailed a survey invitation letter with a link to web survey and unique PIN. The following week every sampled Veteran was also mailed a postcard reminder with a link to the web survey and unique PIN. Nonrespondents were then mailed a paper survey two weeks later. One-week later IVR reminder calls were made to those with a telephone number who received the paper survey. See section 5 for more information about the survey communication protocol.

2017 Sample Design 3

3.1 Description of Sampling Frame

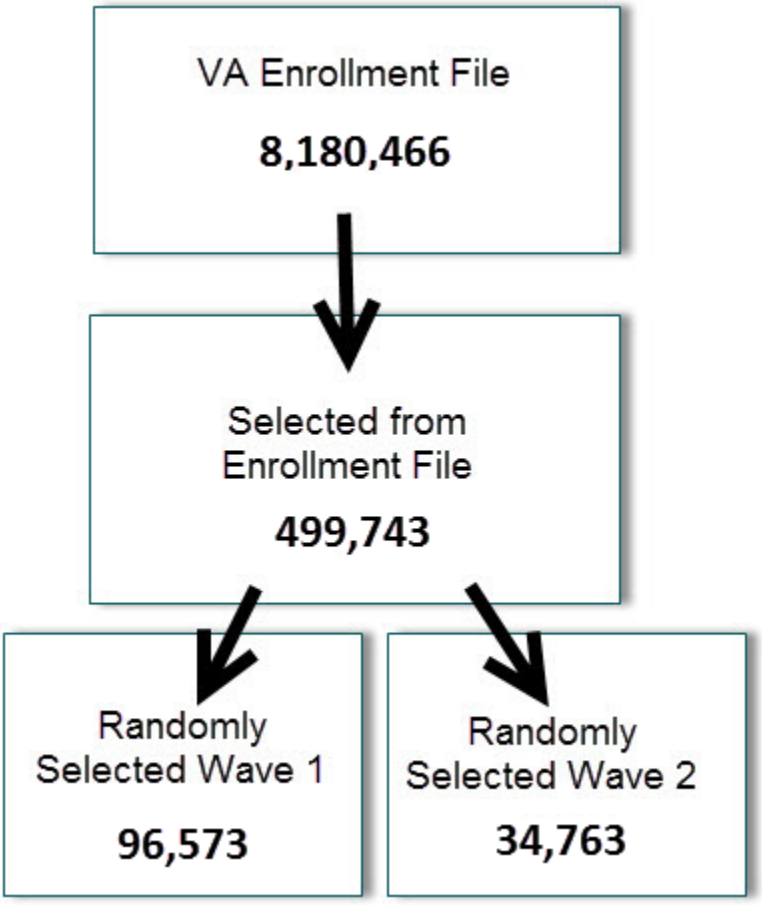
The sampling frame for VA's 2017 Survey of Enrollees was selected from the VHA enrollment file and contained all Veterans enrolled in VA health care as of September 2016. The sample frame excluded records lacking a valid address and those with addresses outside the U.S. and Puerto Rico. Those records with missing variables needed for stratification (VISN, market, priority group, and/or enrollee type) were excluded. Additionally, starting in 2017, enrollees sampled for the 2016 Survey of Enrollees were excluded from the sample frame (though final weights were computed to account for the excluded records).

There were 8,180,466 records in the sampling frame. Each record contained variables to be used for stratification, including VISN, market, priority group, and enrollee type, and variables to be used to contact sampled persons (name, address, and telephone number). In addition, a variable was added indicating whether a person was eligible, not eligible, or sampled for 2016 Survey of Enrollees study.

3.2 Sample Selection

A two-phase sampling approach was used to select the survey sample, with the same strata used to select the samples for both phases. First, Westat determined the target sample sizes for each sampling stratum and provided them to the VA who, in turn, selected 499,743 Veterans from their enrollment file. Using this list of Veterans, Westat sampled Veteran enrollees to be contacted for the study in two waves. Wave 1 was a sample of 96,573 individuals and was selected in February 2017; Wave 2 was a sample of 34,763 Veterans and was selected in April 2017. Figure 3-1 depicts the sample selection process.

Figure 3-1. Sample selection



3.2.1 Development of Sample Targets

Sampling targets were developed to ensure an adequate number of completed interviews for the following analytic domains:

- Individual markets;
- Priority groups within VISN, with priorities 1, 2, and 3 being one group; priorities 4, 5, and 6 being a second group; and priorities 7 and 8 being the third group; and
- Enrollee type, with enrollment prior to March 31, 1999 versus enrollment after this date.

Targets were developed to ensure three goals:

1. Guarantee an effective sample size of at least 315 completes (90% of the target goal of 350) within each market and for each priority group within a VISN, where the effective sample size was the number of completes adjusted for the design effect resulting from oversampling subgroups;

2. Ensure that at least 30 percent of the completed cases were pre-enrollees; and

3. Achieve a total sample large enough to ensure 42,000 completed cases.

A complete listing of the sample targets may be found in Appendix A.

3.2.2 Selecting the Wave 1 Sample

Because sample targets were defined for markets, priority groups within VISN and enrollee type, the sampling strata were the three-dimensional cells based on market, priority group, and enrollee type. Linear programming methods were used to determine the optimal stratum sample sizes needed to achieve the desired goals.

The allocation of the sampling targets to the sampling strata provides the number of completes needed in a given stratum. To account for nonresponse, the number of completes in a sampling stratum was adjusted by the inverse of the stratum's response rate for the control (non-experimental) group of the 2016 study, which used the same protocol as the 2017 study. Response rates achieved in 2016 were considered a good proxy for expected 2017 response rates, allowing adjustments to the sample for low performing and high performing strata to ensure that overall targets were met.

The sample within each sampling strata was selected using systematic sampling from the 499,743 records sampled from the VA enrollment file. The records were sorted by zip code within stratum to ensure proper geographic representation. Multiplying the desired number of completes for each sampling stratum by the inverse of the 2016 response rate produced a total sample size of about 145,000 for fielding. This expected sample was scaled down by a constant factor to 96,573 for Wave 1 to allow for the possibility of higher than expected response rates. The Wave 2 sample targeted the low performing strata.

Beginning with the 2017 study, veterans sampled for the 2016 Survey of Enrollees were ineligible for the 2017 Survey of Enrollees and excluded from the sampling frame. To account for the excluded cases, Veterans who were eligible for selection in previous study but not sampled were over sampled. To achieve this, aggregate counts of Veterans in three subsampling groups were provided by VA prior to excluding any Veterans: subsampling group one were those sampled for other VA studies within the same year (N = 165,706), subsampling group two were those eligible for other VA studies but not sampled (N=8,014,760), and subsampling group three were those not eligible for other VA studies, i.e., Veterans new to VA (N = 431,002). Veterans in group 1 were not sampled. Those in group 2 were over-sampled relative to group 3 in order to increase the group 2 sample size, permitting group 2 to represent both group 1 and group 2.

A question-wording experiment was conducted within Wave 1 only. Four experimental groups of 2,500 Veterans each were selected to receive different versions of the questionnaire to be compared with the 86,573 remaining Veterans in the control group. Systematic random samples from the sampled Veterans were selected to assign sampled Veterans to experimental groups. The sampled Veterans were sorted by the stratification variables in the main survey (market, VISN, priority group, and type) prior to selecting the treatment group sample.

3.2.3 Selecting the Wave 2 Sample

The Wave 2 sample was selected from the remainder of the VA-provided sample list after the Wave 1 sample was excluded. Determining the stratum level sample sizes for Wave 2 was more complicated than for Wave 1. It required estimating the number of completes that would result from the Wave 1 sample, which was still being fielded, and determining the proper way to distribute the sample among the sampling strata to meet the sample targets (comprised of overlapping combinations of sampling strata).

The following six-step process was used to select the Wave 2 sample.

1. The expected number of Wave 1 completed cases was estimated for each stratum.
2. The results from Step 1 were used to determine stratum-level shortfalls.
3. Results from Step 2 were aggregated to the overlapping analytic domains (markets, priority groups within VISNs and enrollee type) for which target numbers of completed cases had been specified.

4. Step 2 stratum-level shortfalls were reallocated across strata in order to minimize the Wave 2 fielded sample size, subject to satisfying the Step 3 domain of interest level shortfalls.

5. Wave 2 fielded sample sizes were determined at the stratum level.

6. Wave 2 fielded sample sizes were determined for the subsampling groups within each stratum.

Step 1: Expected Number of Wave 1 Completes. The Wave 1 sample was still in the initial stage of data collection at the time the Wave 2 sample needed to be drawn. Estimates had to be made about the number of completes expected from the remaining Wave 1 sample. Estimated completes were based on the prior years' experience for each stratum. Estimating in this manner assumes that strata that are high or low performing in the prior year will continue this performance in the current data collection cycle.

Step 2: Stratum-Level Shortfalls. The number of completes allocated to a sampling stratum to select the Wave 1 sample was compared to its expected number of completes computed in Step 1. The difference between the two numbers was the Wave 1 stratum-level expected shortfall.

Step 3: Domain-Level Shortfalls. The file of stratum-level shortfalls created in Step 2 contained membership variables for the following types of analytic domains:

- Individual markets;
- Priority groups within VISNs; and
- Veterans who enrolled prior to March 31, 1999, compared to Veterans who enrolled after this date.

For example, each record in the file of stratum-level shortfalls contained a variable that indicated to which market the record belonged. For each type of analytic domain, we used the values of the appropriate domain-membership variables to aggregate stratum-level shortfalls to domain-level shortfalls.

Step 4: Reallocation of Stratum-Level Shortfalls. To minimize the Wave 2 fielded sample size, stratum-level shortfalls identified in Step 2 were reallocated across strata. This reallocation was subject to satisfying the Step 3 domain of interest level shortfalls.

Step 5: Stratum-Level Wave 2 Sample Sizes. Step 4 determined the expected number of needed completes by sampling stratum. As was done for Wave 1, the fielded number of Wave 2 cases for each stratum was determined by multiplying the allocated number of completed cases by the inverse of an estimated response rate. For Wave 2, estimated response rates are based on a combination of the interim results of Wave 1 and the results of the prior year cycle. At the time of sampling for Wave 2, the paper survey for Wave 1 had not been mailed yet, so only the web response rates were available. Therefore, the estimated Wave 2 response rate was a combination of the 2017 web response rate and the 2016 paper response rate.

Step 6: Wave 2 Sample Sizes for Subsampling Groups with Strata. As was done in Wave 1 within each sampling stratum, Veterans sampled for the 2016 Survey of Enrollees (group 1) were not sampled and Veterans eligible for sampling in the 2016 Survey of Enrollees and were not sampled (group 2) were over sampled relative to newly enrolled Veterans who were not enrolled at the time of the 2016 Survey of Enrollees (group 3).

Questionnaire Design 4

4.1 2017 Survey Revision Process

Westat and VA jointly modified and revised the 2017 Survey of Enrollees questionnaire to better support VA's measurement needs. One change was a methodological experiment Westat suggested to improve the reliance questions that ask about outpatient health care utilization paid for by VA and outpatient care utilization not paid for by VA. These data are used to calculate VA reliance, which is the ratio of number of VA-paid visits to total number of VA and non-VA visits. A detailed description of the 2017 methodological experiments may be found in a separate report, *Survey of Enrollees 2017 Methodology Experiments Report.* Another modification was a skip pattern to allow all respondents to receive questions about text messaging on cell phones and awareness and use of VA's My HealtheVet web site. VA also instructed Westat to remove questions that were no longer needed for their projection models or policy decisions. The 2017 survey was thus different from previous-year surveys. While these content changes affect ongoing trend analyses, they also position the VA to address emerging issues affecting the use of VA health care and the expansion of health care delivery methods to VA enrollees.

4.2 Survey Sections

Title and Cover Page. The VA retained the survey title from the prior year—*Survey of Veteran Enrollees' Health and Use of Health Care.* Welcome text on the cover briefly described the survey purpose, stated the expected survey completion time (20 minutes), and assured enrollees not currently using VA health care services that their participation was important. It also stated that knowledgeable proxies could answer on behalf of the enrolled Veteran if health problems prevented the Veteran from taking the survey.

Introduction and Name Verification. This section included statements that participation was voluntary; VA benefits would not be affected if the enrollee chose not to respond, and results would be aggregated, and respondents' identities protected. Two questions verified if the sampled Veteran was answering the survey or if a person knowledgeable (proxy) about that person's health care,

health benefits, and health status was answering on behalf of the Veteran. Proxies were asked an additional question about their relationship to the Veteran.

Health Benefits. This section opened with a question asking if the Veteran was enrolled in VA health care. A definition of "enrolled veteran" was included to promote accurate answers and to reduce "Don't Know" responses. The remaining questions asked about various types of health care coverage, including Medicare, Medicaid, TRICARE, and other plans obtained through employers, family members, or another source. Veterans with "other" health care coverage plans were asked if their plans included prescription drug coverage. The section also includes a question about long-term care policies covering nursing home care. This section ended with a question asking for the primary source of information about VA health benefits and eligibility.

Medication Use and Benefits. The questions in this section asked about number of prescription medications and how many were obtained from the VA.

Your Views about Health Care and Reasons for Using or Not Using VA's Health Care System. The first set of questions in this section were part of the methodological experiment previously discussed. Enrollees were randomly assigned to a control or four experiment groups, which determined the experimental question ordering, wording, and structure. The experimental set of questions asked about the number of outpatient visits to VA and non-VA health care facilities for which the VA paid fully or partially for the visits. The questions in this section also inquired about ease of getting appointments, the professionalism of the medical staff, and the Veterans' perceived involvement in being informed and involved in decisions regarding their care. Veterans who used health care services other than through the VA were asked about factors when selecting a health care provider and reasons for using these other health care services. In addition, all Veterans were asked about how often VA services meets their health care needs and ways to use VA for health care in the future.

Current Health and Caregiver Assistance. This section was designed to collect more information about enrollees' need for caregiver services. Enrollees were asked for a self-evaluation of their health status and if they require assistance performing select activities of daily living (ADLs), such as bathing, eating, taking medications properly, or coping with stressful situations. This section closes with a series of questions on cigarette smoking history. A set of questions asking about caregiver support and level of dependence on caregivers were removed from the 2017 survey.

Digital Access. This survey section helps the VA better understand how enrollees are using mobile devices and computers to connect to the Internet. The VA will use the data to identify potential opportunities for using technology to improve its delivery of care and expand enrollee use of telehealth. Enrollees who use the Internet, at least occasionally, were asked whether they use it to do various tasks, where they go online, how often they access the Internet on various types of computers and mobile devices, and the types of service(s) they use to access the Internet. In 2016, only enrollees who used the Internet occasionally were asked the remaining questions in this section. In 2017, a change in skip patterns asked all enrollees the remaining questions in this section, regardless of using the Internet, if they send or receive text messages on a cell phone and the remaining questions. Questions asked how willing they would be to do various healthcare-related activities on at least one of their computers or mobile devices (e.g., fill out VA health-related forms, communicate securely with their VA health care providers via secure email/text messaging on mobile devices, and use VA apps to track their health care status). Finally, they were asked if they were aware of or used VA's My HealtheVet web site. Those who used the My HealtheVet web site were asked for what purposes they use it for such as to look for health information or to see my VA appointments.

About You. In 2016, this section was revised to reduce respondent burden, and began with a question about the period of military service. Instead of asking for beginning and final end dates of their active duty service as well as which of nine military periods of service they had served in, enrollees were asked only about the nine military periods of service. An additional question asked if the Veteran had ever served in a combat or war zone. The remaining questions were demographic items, including marital status, total number of dependents and number of dependents under age 18, employment status, Hispanic ethnicity, race, and total annual household income. Veterans were asked to indicate their total annual income by choosing among a range of income categories.

Trust in VA. The last question in the survey was to measure Veteran enrollees' attitudes toward the statement "I trust VA to fulfill our country's commitment to Veterans." This question is asked on a number of other VA surveys.

4.3 Instrument Design and Programming

To reduce potential measurement error and mode effects across the planned survey modes, Westat incorporated a mix of basic survey design principles for each specific survey mode, as well as

programming features of our web and telephone survey application. A few examples of design principles that were implemented included:

- A yes/no response format for each item in check-all-that apply questions;
- Use of automated skips in the web and telephone instruments;
- Pop-up messages in the web and telephone instruments alerting respondents and interviewers when answers did not fall within valid response ranges; and
- Automatic reformatting of grid items to single-question format when the survey was viewed on a smartphone.

Prior to the start of data collection, we tested the programmed instruments across various platforms, browsers, browser versions, and screen resolutions on desktop computers, notebooks, and smartphones to ensure ease of response and accurate data capture.

Mail Survey. The 52-question mail survey was designed and formatted as a scannable 12-page black-and-white booklet with an attractive VA logo on the cover. We used simple, clear, and noticeable instructions to promote accurate navigation. Proxies were reminded at the start of each section to answer on behalf of the Veteran named in the invitation letter.

Web Survey. The web survey instrument was hosted on a secure web site. Sample members were provided with a survey URL and a unique personal identification number (PIN) to log into the survey. The Veteran's name and appropriate pronouns were automatically merged into the survey questions when a proxy was answering for the Veteran. Respondents were able to complete the survey in more than one session, with their answers saved. To meet quotas in three markets, a very small number of interviews (46 in total) were completed over the telephone. Telephone interviewers used the web application to record Veterans' responses.

4.4 Survey Communications Materials

Westat designed all survey communication materials (letters, postcard reminders, and envelopes) to encourage a survey response from sampled Veterans. The black-and-white letters and reminder postcards were clear, informative, brief, and friendly. The salutation was personalized, and the signator was a senior VA official in the Department of Veterans Affairs. The VA logo appeared on all communications and envelopes to reinforce the validity and importance of the survey. Examples of all survey postal communications are included in Appendix D.

Data Collection 5

The 2017 survey used the same multimode protocol as was used in 2015 and 2016. The survey was initially launched via the web to all sampled enrollees with valid mailing addresses. All non-responding Veterans were followed up with a paper survey. Using the 2015 and 2016 response rates, the 2017 samples for Wave 1 and Wave 2 were selected to ensure that minimum cell targets were met in all of the VISNs and markets. All data collection targets (i.e., number of completed interviews in each VISN and market) were met with web and mail survey respondents, with the exception of three markets where the number of completes came up just short of the goal. As a result, 46 interviews were completed over the telephone in order to fulfill all target numbers.

5.1 Web Survey

A secure website was developed for the survey data collection. Each sample member received a link to the survey URL:www.surveyvha.org (i.e., the website location of the survey), and a unique 8-digit PIN code. When Veterans logged into the web survey system, their PIN number was verified against a database in the survey management system (SMS). Appendix B contains the annotated version of the web survey.

Administration of the web survey began on March 29, 2017, and the web survey option was available to respondents throughout the entire data collection period. Every Veteran selected to participate was given the opportunity to complete the Survey of Enrollees via a web survey. Each postal communication included instructions and a unique PIN number to securely access the web survey.

The web survey site included a toll-free number and e-mail address if Veterans required technical assistance. A link to the Frequently Asked Questions (FAQs) was also available on every page of the web survey.

5.2 Mail Survey

Westat conducts mail surveys using scannable forms to ensure rapid and accurate data entry. For the Survey of Enrollees, we used TeleForm® – a software system for intelligent data capture and image processing. TeleForm enables us to rapidly associate variable names and data capture zones with each question included in the questionnaire. The mail survey instrument used for the Survey of Enrollees may be found in Appendix C.

Westat sent mail surveys to all the sampled Veterans with a valid mailing address who had not previously completed a web survey. The mail survey included a cover letter describing the importance of the study and a business return envelope to return the completed questionnaire. Also included were instructions for completing the web survey and a toll-free number if Veterans required technical assistance.

5.3 Telephone Interviews

In order to meet minimum target quotas at the end of the data collection, a small number of additional completes were needed from three markets. Westat implemented a telephone interview protocol to meet the study's target goals. A random selection of non-responding Veterans from the three markets (17-e, 17-g and 23-p) were contacted during the final week of data collection. Westat completed 46 telephone interviews over four days to satisfy sampling targets. Table 5-1 below indicates the locations of VISNs and Markets as well as the number of completed interviews.

Table 5-1. VISNs and markets where telephone interviews were completed

VISN	Market	Location	Completed Telephone Interviews
17	17-e	Southern Texas	24
17	17-g	West Texas	12
23	23-p	West South Dakota	10
Total			46

5.4 Field Period, Sample Size, and Sample Waves

Data collection for the 2017 Survey of Enrollees began on March 29, 2017 and ended on July 17, 2017. In total, 124,645 Veterans with valid current mailing addresses were invited to participate from the 131,336 records sampled. There were 6,862 records sampled that did pass National Change of Address (NCOA) and were dropped from the sample. To allow better targeting of stratification cells and ensure that all cell targets met their quotas, the sample was released in two waves. Wave 1 was released on March 29, 2017, included 96,573 sampled Veterans of which 91,904 enrollees with valid addresses were mailed survey invitations. Wave 2 was released on May 8, 2017, included an additional 34,763 sampled Veterans of which 32,741 enrollees with valid addresses were mailed survey invitations. Completed interviews for each Wave were accepted through the end of the data collection period (July 17, 2017).

5.5 Survey Communications

The 2017 survey communication protocol followed the strategies learned in 2015 and 2016. All sampled enrollees were mailed an invitation letter and a list of Frequently Asked Questions (FAQ). The same enrollees were mailed a postcard reminder one week later. Approximately two weeks later, non-responders were sent a mail survey. The same non-responders with valid phone numbers received Interactive Voice Response (IVR) reminder calls. Table 5-2 presents the dates and number of communications sent in 2017.

Table 5-2. 2017 communications numbers and dates

Communication Type	Number in Wave 1	Wave 1 Date	Number in Wave 2	Wave 2 Date	Total
Survey invitation letter	91,904	3/29	32,741	5/8	124,645
Postcard reminder	91,904	4/5	32,741	5/15	124,645
Mailing with questionnaire	77,728	4/20	26,562	6/6	104,290
Interactive voice Response (IVR) reminder calls	35,371	4/27	13,253	6/13	48,624
Total	296,907		105,297		402,204

5.6 U.S. Postal Service Mailings

Prior to survey administration, the U.S. Postal Service National Change of Address (NCOA) database was used to obtain the most up-to-date mailing addresses for sample members. Of the 131,336 records sent through NCOA processing, 6,862 total records were identified as having a change of address or an invalid address (4,969 addresses of these were in Wave 1, and 1,893 addresses were in Wave 2). These records were excluded from the sample.

All postal communications were sent via USPS first-class mail. Sampled enrollees were mailed a web survey invitation letter. The letter informed them that they had been selected for the survey, provided some background about the survey, and invited them to log into a secure website where they could access the survey using their enclosed personal identification number (PIN) and complete the survey. Each postal communications included the Information Center toll-free telephone number for inquiries about the survey content, or computer and technical issues. For all sampled Veterans, the web survey invitation mailing included Frequently Asked Questions (FAQs).

5.7 IVR Calls

Interactive Voice Response (IVR) reminder calls were made to survey respondents who received a survey in the mail and had a known landline telephone number. An IVR call is an automated call with a 30-second recorded message delivered to a list of telephone numbers. Telephone numbers were drawn from the list file provided by the VA. Telephone numbers were available for the majority of the sampled enrollees. The IVR calls were made to non-responders a week after the survey mailing was sent out. Table 5-3 shows the number of sample members who received IVR reminder calls in Wave 1 and Wave 2.

Table 5-3. Number of IVR reminder calls

Wave 1	Wave 2	Total IVR Calls
35,371	13,253	48,624

5.7.1 Survey Communications Schedule

Table 5-4 presents the schedule for survey communications contacts. The schedule was planned to fit within the 16-week data collection period, as dictated by the study protocol, and was adjusted to accommodate weekends and the high volume mailings.

Table 5-4. 2017 schedule for each survey communication

Activity	Number of Days After the Survey Invitation Letter	Wave 1 Dates	Wave 2 Dates
Survey invitation letter	0	3/29	5/8
Postcard reminder	7	4/5	5/15
Mailing with questionnaire	Wave 1 = 21 Wave 2 = 29	4/20	6/6
IVR call	Wave 1 = 28 Wave 2 = 36	4/27	6/13

5.8 Data Collection Results by Mode

At the conclusion of data collection, 43,654 Veterans had submitted or returned a completed survey. Thirty-six percent of responders completed the web version of the questionnaire and the remaining respondents (64%) completed the mail survey (see Table 5-5). An extremely small percentage (0.1%) completed a telephone survey.

Table 5-5. Number of completed surveys by mode

Web Survey Completes	Mail Survey Completes	Telephone Survey Completes	Total Completes
15,815	27,793	46	43,654
36.2%	63.7%	0.1%	100%

All targets were met for completed surveys by markets, priority groups within VISNs, and pre-/post enrollee groups. See Appendix A for further details.

Information Center 6

Westat's Information Center for the Survey of Enrollees was staffed to answer questions from sampled enrollees by telephone or email. Sampled enrollees could call the Information Center to hear recorded information about the study or to speak directly with a Survey Information Center representative. Ten persons staffed the Information Center during the fielding period and for 7 days following the end of data collection, with additional persons assisting during periods of high volume resulting from reminder mailings and IVR calls. Between March 29, 2017 and July 17, 2017, the Information Center received 4,098 calls and 23 emails. Of these, 1,547 callers (38%) chose to speak to a live representative, while the rest opted to select an option from a menu to hear a recorded answer. The most common theme expressed in the calls and emails concerned questions about the background and purpose of the survey. Other common reasons for contacting the Information Center were related to requesting a paper survey, connectivity issues, and indicating they did not have Internet or a computer.

6.1 Hours of Operation

Westat maintained a dedicated toll-free line, which was staffed from 9 a.m. to 9 p.m. Eastern Daylight Time, 7 days a week beginning Wednesday, March 29, 2017 and ending Monday, July 17, 2017, including holidays. During those hours when the Information Center was not staffed, callers could leave a message and receive a return call the next business day. When calls were returned, an outbound caller-id display of "VA HEALTH 301-255-0020" was displayed.

6.2 Answering System

When Veterans called the Information Center's toll-free number, they were first routed to an interactive voice response (IVR) telephone answering system menu to provide automated messages regarding the study. The initial prompt advised that all calls would be accepted, and then the Veterans were offered the following menu of choices:

- **Press 0 –** To speak with an Information Center representative.

- **Press 1 –** If you do not have Internet access or a computer at home to take the web survey.
- **Press 2 –** To hear general information about the survey.
- **Press 3 –** To hear how you were selected and how we obtained your name.
- **Press 4 –** To hear who is conducting the survey.
- **Press 5 –** To leave a voice mail message.

In order to better manage a large number of calls about no Internet or computer access, a menu option ("Press 1") was offered, allowing callers to hear a recorded message if they did not have internet access or a computer. Overall, 2,100 callers selected the IVR menu option about not having Internet access or a computer to take the web survey.

Additional information about the number of calls handled through the telephone answering system menu can be found in Table 6-1.

During the field period, the Information Center returned 90 answering machine messages based on the IVR choice to select option 5. The majority of these messages were either from Veterans notifying Westat of their inability to complete the survey via web because they either did not have access to a computer and/or had no internet access or that a Veteran was deceased.

6.3 Call Volume

The volume of calls received typically followed the timing of contacts made to sampled study participants. For example, the highest call volumes were seen just after the invitation letters were received by participants. A smaller increase in volume was noticed shortly after the questionnaire mailing. An illustration of the call volume and key contact dates can be found in Figure 6-1.

Table 6-1. Call volume by week according to telephone answering system menu

Week	Date (Mon – Sun)	Pressed 0 Speak to Rep	Pressed 1 No Internet Access	Pressed 2 General Info	Pressed 3 How we Obtained Your Name	Pressed 4 Who is Conducting Survey	Pressed 5 Left Voicemail	Total Calls Received
1	3/29 – 4/2	101	144	9	8	1	6	269
2	4/3 – 4/9	173	449	31	21	4	9	687
3	4/10-4/16	154	367	10	10	4	7	552
4	4/17-4/23	108	132	17	11	5	5	278
5	4/24 – 4/30	214	203	21	53	9	17	517
6	5/1 – 5/7	140	102	13	22	3	6	286
7	5/8 – 5/14	79	103	6	2	1	10	201
8	5/15 – 5/21	133	275	16	14	3	12	453
9	5/22 – 5/28	47	63	2	5	1	1	119
10	5/29 – 6/4	49	50	4	5	1	5	114
11	6/5 – 6/11	85	57	2	3	1	4	152
12	6/12 – 6/18	100	105	11	10	5	6	237
13	6/19 – 6/25	57	20	6	2	1	1	87
14	6/26 – 7/2	40	15	0	2	0	1	58
15	7/3 – 7/9	37	7	0	3	0	0	47
16	7/10 – 7/17	30	8	1	2	0	0	41
Total		1,547	2,100	149	173	39	90	4,098
Percent		37.8%	51.2%	3.6%	4.2%	1.0%	2.2%	100.0%

Figure 6-1. Total number of phone calls and key mailing dates

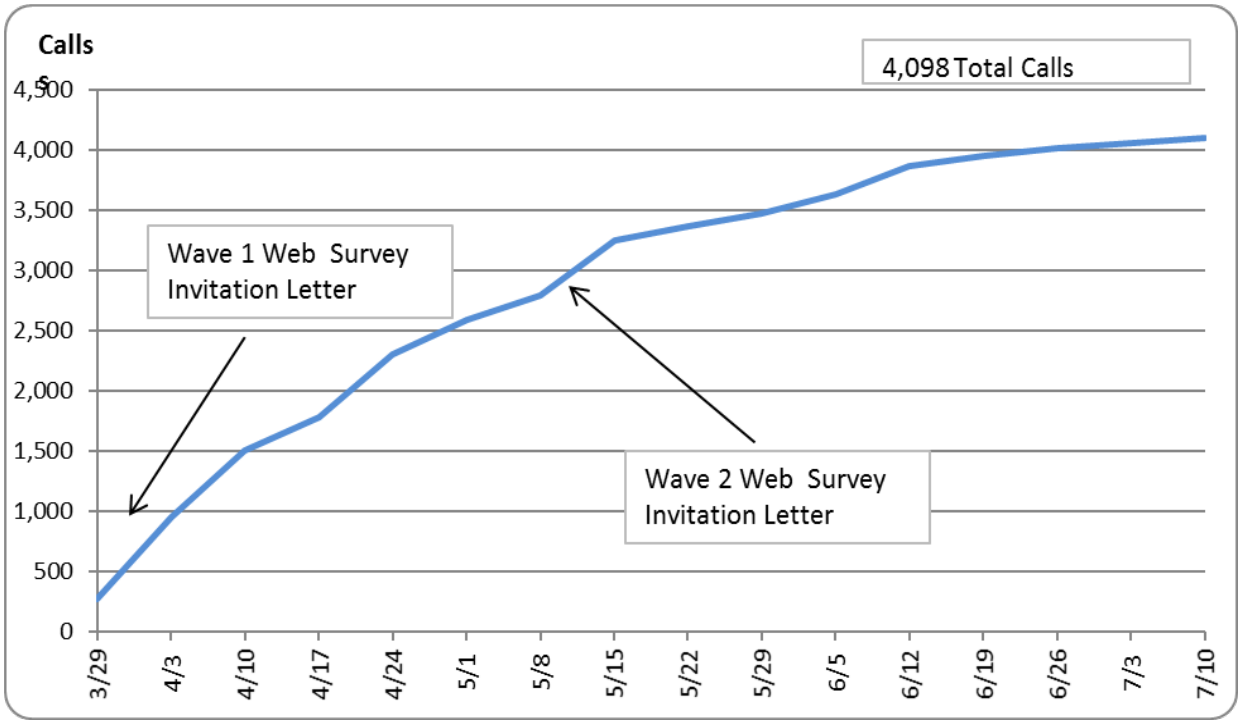


Table 6-1 summarizes the call volume to toll-free lines over the course of the data collection. During the entire data collection period, 51 percent of the callers opted to listen to a pre-recorded message regarding "no internet access" ("Press 1"). Almost 4 percent called to receive general information ("Press 2"), and a 4 percentage of callers had questions about how we got their name ("Press 3").

At the end of each conversation, an Information Center representative categorized the reason for the call. Table 6-2 summarizes the reasons given for contacting the Information Center. As the table shows, the majority of the calls were related to general information on study background/how to proceed, requesting a mail survey, and not having access to a computer and/no internet access.

Table 6-2. Reason for calling among those who spoke with a representative

Reason for Call	Number of Calls	Percent of Calls
Information on study background/how to proceed	1,438	50.1%
Request a survey mailing	511	17.8%
No computer or Internet access	425	14.8%
Refusal to participate	125	4.4%
Sign in/connection issues with web survey	118	4.1%
Address Update	61	2.1%
Feedback for VA	22	0.8%
Stated they would participate	12	0.4%
Requests proxy/proxy needed	68	2.4%
Request for PIN number	40	1.4%
Question about a survey item	32	1.1%
Name update	5	0.2%
Telephone number update	7	0.2%
Distressed call	3	0.1%
Update email address	1	0.1%
Total	2,868	100%

As Table 6-3 indicates, the majority of calls (95%) to the Information Center occurred during the daytime hours between 9 a.m. and 5 p.m. EDT. Four percent (4%) of the calls occurred during the evening hours between 5 p.m. and 9 p.m. EDT. Only 1 percent of the calls came when the Information Center was closed between 9:01 p.m. and 8:59 a.m. EDT. The IVR telephone answering system menu prompts satisfied a great deal of requests. The highest volume of calls tended to occur at the beginning of the week (Monday, Tuesday, and Wednesday). In comparing the volume between 2016 and 2017, there was little variance when the calls were received.

Table 6-3. Information Center calls received by time of day (EDT)

	9 a.m. – 5 p.m.	5 p.m. – 7 p.m.	7 p.m. – 9 p.m.	9 p.m. – 9 a.m.
Information Center Status	Open	Open	Open	Closed
Percentage of Inbound Calls	95%	2%	2%	1%

6.4 Emails Received

Study participants also had an opportunity to contact the Information Center through email. The email address was only shown on the web survey. An extremely low number of participants opted to reach the Information Center by email. All email inquiries received a response. Table 6-4 below indicates the volume of emails per week and Table 6-5 contains the reason for emailing. Overall, approximately two-thirds of the emails dealt with information on study background/how to proceed, and PIN problems.

Table 6-4. Number of emails received per week

Week	Date (Mon – Sun)	Number of emails
1	3/29–4/2	4
2	4/3 – 4/9	0
3	4/10 – 4/16	0
4	4/17 – 4/23	0
5	4/24 – 4/30	0
6	5/1 – 5/7	11
7	5/8 – 5/14	3
8	5/15 – 5/21	2
9	5/22 – 5/28	0
10	5/29 – 6/4	1
11	6/5 – 6/11	1
12	6/12 – 6/18	0
13	6/19 – 6/25	0
14	6/26 – 7/2	0
15	7/3 – 7/9	1
16	7/10 – 7/17	0
Total		23

Table 6-5. Reason for emailing the Information Center

Reason for Email	Number of Emails	Percent of Emails
Information on study background/how to proceed	12	52.2%
Respondent is deceased	4	17.4%
Sign-in/connection issues with web survey	3	13.0%
Request for PIN number	2	8.7%
Too Sick/Incapacitated	1	4.3%
Already completed survey	1	4.3%
Total	23	100.00%

6.5 Training for Information Center Representatives

Prior to data collection, Information Center representatives received training on the survey instruments, project protocols, website operational processes, and the Survey Management System. The purpose of the training was to prepare representatives for calls and emails from Veterans. In order to respond to the expected volume, a total of ten Information Center representatives were invited to train on the study. The Information Center Representatives were highly experienced as eight of the ten Information Center representatives were previously trained and worked on the study in 2015 or 2016. This familiarity with the study allowed Westat to customize training to accommodate the new and seasoned representatives.

Before attending the classroom training, trainees were required to complete a self-paced online training session. The self-paced training consisted of two hours of pre-classroom training. Modules covered during the pre-classroom training included the following.

- Study overview and background;
- Frequently asked questions;
- Review of help screens in the web survey;
- How to properly code and summarize the contact with Veterans; and
- Interviewer training/sensitivity/distressed caller protocol.

The training session was held on March 21, 2017. The first two hours of classroom training consisted of lecture and interactive training. The final two hours of training included role play scenarios in which Information Center training representatives were paired together to provide hands-on practical experience in responding to anticipated questions from Veterans. Trainees were supplied with a Survey of Enrollees Training Manual containing copies of all participant materials, FAQs, copies of the survey, and the distress protocols. Appendix E contains copies of training materials. Topics covered during the classroom training included the following.

- An introduction of the study, the survey background and purpose;
- Training on how to use the SMS;
- Discussing issue and result codes to assign to records;
- Protocols for trouble-shooting the Veteran's inquiry, connectivity issues, and navigation through the instrument; and
- How to properly document each contact.

Prior to interacting with Veterans, Information Center representatives were monitored and certified by an Information Center supervisor, to ensure they were thoroughly knowledgeable and capable of performing all Information Center functions. Once certified, the representative could look up and verify the caller in the SMS by name, phone number, address, or PIN number. Once the call was complete, the representative would summarize the purpose of the call and categorize the nature of the call. This provided a historic record of all calls answered by an Information Center representative.

6.6 Distressed Caller Protocol

Information Center staff members were trained to follow a distressed caller protocol in the event that a Veteran became seriously distressed during an interaction with the Information Center. The reasons for being distressed could vary greatly and dealing with these situations requires good listening, sensitive judgment, human insight, and preparedness on the Information Center representative's part.

The distressed caller protocol used during the fielding of the 2015 and 2016 Survey of Enrollees was used again in 2017. According to the protocol, the signs of distress determined the level of distress and the urgency of the situation. Westat noted each circumstance carefully using the criteria noted in Table 6-6 below. A level 1 situation (mild distress), was documented within the SMS and the supervisor at the Information Center determined if it should be escalated to a higher level. Incidents defined as level 2 or 3 situations, (moderate or severe levels of distress), required representatives to immediately express concern and acknowledge appropriately. Then the representative was required to contact their supervisor immediately. Supervisors at the Information Center then attempted a "warm transfer" directly to the Veteran's Crisis Line at 1-800-273-8255 with the Veteran's consent. The Veteran may refuse the transfer. If this occurred, the call was still documented in an adverse event report and protocol was still followed. See Appendix F for the full distressed caller protocol that was utilized with level 2 and 3 situations.

Table 6-6. Levels of distress and indicators

Level of Distress	Signs or Indicators of Distress
Level 1: Mild/Minimal	Respondent demonstrates any of the following: ■ Upset about being contacted. ■ Change in voice tone or volume. ■ Changes in focus. ■ Hesitancy to answer questions. ■ Respondent expresses sadness.
Level 2: Moderate/In Need of Referral	Respondent demonstrates any of the following: ■ Respondent is too upset to continue. ■ Use of inappropriate language. ■ Provides non-relevant answers to questions. ■ For emotional reasons displays an unwillingness or hesitancy to continue. ■ Sobbing, weeping, and/or crying on the telephone. ■ Displays other obvious signs of agitation. ■ Expresses feelings of depression about conditions such as: family, mental and physical health status, and/or lack of services.
Level 3: Severe/Immediate Help	Respondent shows any of the following signs: ■ Openly states the intention to hurt themselves. ■ Openly states his/her intention to hurt other people. ■ Openly asks for help. ■ Suicidal or paranoid thoughts.

The Information Center's responsibility is to immediately document the Veteran's exact words and level of distress in an adverse events report, so that Westat could take immediate action steps outlined in the Distressed Caller Protocol procedures. Any adverse event reports were sent to VA for all level 2 and 3 situations within hours of the incident. Adverse events reports included a de-identified summary of the incident, unique ID, VHA identifier, level of distress, and description of Westat's actions. During the fielding period, Westat received 3 distressed calls, but only one contact from a Veteran that was determined to be an adverse event (level 2 or 3) and VA was notified of this event following the Distressed Caller Protocol procedures.

Processing Multimode Data 7

Data for the Survey of Enrollees was collected using two modes – web and mail. The 46 surveys completed by telephone were conducted using the web survey for data entry. Westat implemented the following data preparation steps to prepare the final data file.

- Extracted web data, imported into SAS, and set out-of-range values to missing.
- Extracted data from scanned questionnaires for pre-determined fields and response categories using TeleForm software.
- Imported the TeleForm data into SAS and applied cleaning logic to forward-code skip patterns, set out-of-range values to special missing values.
- Combined the web and mail data; in cases where multiple surveys from the same respondent were receipted, Westat retained the survey that was receipted first.
- Applied key item rules that determined whether each survey was complete.
- Imported the survey metadata into SAS and combined it with the survey data.
- Imported the sampling frame data into SAS and combined it with the survey data.
- Combined the sample weights and strata with the survey data.
- Dropped extraneous variables from the final delivered data set (only complete records were retained).
- Ran frequencies and cross-tabulations to check data values and skip patterns.
- Created deliverable files:

    1. Final SAS data set;
    2. SAS formats catalog;
    3. Copies of annotated survey instruments; and
    4. A codebook containing the contents of the SAS data set and frequency tables of the survey variables.

7.1 Key Survey Items

Key survey items, either individual or matrix items, were identified in consultation with VA. Table 7-1 lists the 29 survey items identified as key items, along with the associated response values. It was determined that at least half of these key items (i.e., 15 items) needed to be answered for a survey to be considered "complete." The key items represent questions that all respondents receive regardless of skip patterns or responses.

Table 7-1. Key survey items and associated valid response values

Item Number	Item Description	Valid Non-Missing Responses
Q1	Please indicate who is completing this survey. In other words, will you complete the survey yourself or will you ask someone to assist you?	1, 0
Q3	Are you enrolled in VA health care?	1, 0, -7
Q4	Are you covered by Medicare?	1, 0
Q10	Are you currently covered by Medicaid (sometimes referred to as "Medical Assistance") for any of your health care?	1, 0
Q11	Are you currently covered by TRICARE?	1, 0
Q12	Are you currently covered by any other individual or group health plan that you, your current or former employer, your spouse or domestic partner's employer, your union, or someone else, obtains for you?	1, 0
Q14	Do you have a long-term care policy that covers nursing home care, assisted living, or long-term care services in the home? Exclude any Medicare Supplement Policy.	1, 0
Q15	Which of the following is your primary source of information about VA health benefits and/or eligibility?	1, 2, 3, 4, 5, 6, 7, 8
Q16	How many different prescription medications did you use in the last 30 days? Include both VA and non-VA prescriptions. Your best guess is fine.	0-50
Q18a	From October 2016 through December 2016, how many outpatient visits or trips did you make to any Non-VA doctor's office, hospital, or outpatient clinic?	0-366
Q18b	From October 2016 through December 2016, how many outpatient visits or trips did you make that were paid for fully or partially by VA?	0-366
Q19	Have you used ANY VA health care services on or after January 1, 2016? Services could either have been at a VA facility or at a community provider that was paid by the VA.	1, 0
Q22	Do you ever use health care services other than those provided or paid for by VA?	1, 2, 0
Q24a-i	Which of the following factors do you consider when selecting a health care provider:	1, 0
Q25	Please complete the following statement: I use VA services to meet.	1, 2, 3, 4, -6
Q26	Below is a list of possible ways you could use VA for your health care in the future. Please read them all, and then choose the one that best describes the primary way you plan to use VA health care in the future.	1, 2, 3, 4, 5, 6, 7

Table 7-1. Key survey items and associated valid response values (continued)

Item Number	Item Description	Valid Non-Missing Responses
Q27	Compared with other people your age, would you say your health is . . .	1, 2, 3 ,4, 5
Q28a-q	In a typical week, how much assistance from family, friends, neighbors, or others do you need for the following daily activities or situations? Please mark any needs you have for assistance, whether or not you are currently receiving assistance for them.	1, 2, 3, -5
Q29	Have you smoked at least 100 cigarettes in your entire life?	1, 0
Q33	Do you use the Internet, at least occasionally?	1, 0
Q38	Do you send or receive text messages on your cell phone?	1, 0, -5
Q39	Think about any computer or mobile device available to you at home or elsewhere that has access to the Internet. How willing would you be to do the following on at least one of those computers or mobile devices?	2, 3, 4, -5
Q40	Are you aware of the My HealtheVet Web site?	1, 0
Q43a-i	Did you serve on active duty in the U.S. Armed Forces during the following time frames?	1, 0
Q44	Did you ever serve in a combat or war zone?	1, 0
Q45	Which of the following best describes your current marital status?	1, 2, 3, 4, 5, 6
Q46	Not including yourself, how many dependents do you currently have?	0-97
Q48	How would you best characterize your employment status?	1, 2, 3, 4
Q52	Please tell us how you feel about the following statement: “I trust VA to fulfill our country’s commitment to Veterans”	1, 2, 3, 4, 5

8 Survey Statistics

The survey research industry utilizes standardized reporting of survey statistics to allow for comparability across surveys and to assess individual survey performance on data quality. The U.S. Federal Government, particularly the Office of Management and Budget (OMB), encourages the use of the American Association of Public Opinion Research (AAPOR) response rate definitions. For the 2017 Survey of Enrollees, Westat used the AAPOR 1 response rate to compute response rates. It is also useful to examine return rates and cooperation rates to understand fully the responsiveness of Veteran enrollees to the 2017 survey.

A summary of the 2017 calculated rates is as follows.

- Response Rate = 33.4%
- Return Rate = 35.2%
- Cooperation Rate = 39.3%

Response Rate. This is the number of completed interviews divided by the total number of eligible respondents. Eligible respondents are defined as Veterans in the current enrollment file who are presumed to be alive. During the course of the data collection, it was learned that 662 sample members were deceased prior to the 2017 survey data collection period and the number of deceased sample members was subtracted from the number of eligible sample members. Overall, the 2017 survey response rate was 33.4 percent, calculated as follows.

Response rate = number of completes/(number of total cases released – number of deceased) * 100

= [43,654/(131,521 – 662)] * 100
= [43,654/130,859] * 100
= **33.4%**

Return Rate. A study decision was made to exclude sample members who were identified as moved or who had an invalid address, according to the National Change of Address (NCOA) database. The return rate calculation excludes these sample members and deceased sample members from the denominator (6,862 respondents not fielded). With these sample members excluded, the overall return rate was 35.2 percent, calculated as follows.

Return rate = number of completes/(number of total cases released – number of deceased – number not fielded) * 100

= [43,654/(131,521 – 662 – 6,862)] * 100
= [43,654/123,997] * 100
= **35.2%**

Cooperation Rate. In addition to deceased or not fielded sample members, another group of sample members was mailed the study materials, but the materials were returned as Postal Non- Deliverable (PND). While these individuals were eligible for the survey, they did not receive their invitation to participate in the survey and thus, did not have an opportunity to complete a survey. The cooperation rate is the number of completes divided by the number of cases contacted. There were 12,961 enrollees identified as PND. When the PND's were excluded, the overall cooperation rate was 39.3 percent, calculated as follows.

Cooperation rate = number of completes/(number of total cases released – number of deceased- number not fielded – number did not receive invitation) * 100

= [43,654/(131,521 – 662 – 6,862 – 12,961)] * 100
= [43,654/111,036] * 100
= **39.3%**

See Appendix G is for these calculated rates across all strata, Appendix H for rates across all markets, and Appendix I for rates for the priority groups within each VISN.

Enhancements and Implementation Goals for Future Surveys 9

All goals were met for the 2017 Survey of Enrollees for schedule and participation. Each year of data collection offers an opportunity to fine-tune procedures and protocols as well as "lessons learned" that can be applied to enhance future survey rounds.

9.1 Enhancement: Reduce Sampled Veteran's Burden

In 2015 and to a lesser extent 2016, the Information Center experienced a large number of calls following the initial web survey invitation mailing from individuals who did not have access to a computer or the Internet. These individuals felt technology was a barrier to participation. As a result, Westat adapted survey communications by adding specific language in the communications that informed the sampled Veteran they would receive a paper survey in the mail within a few weeks. The IVR phone answering system was also modified to include new prompts explaining a survey would be mailed within a few weeks. This change worked as expected. In 2015, 4,091 potential respondents spoke with an Information Center representative to indicate they had "no computer or Internet access". The number of calls about "no computer or Internet access" dropped to 562 calls in 2016 and dropped further to 425 calls in 2017.

9.2 Goal: Meeting Survey Quotas by Stratum While Minimizing Overage

The survey protocol set goals for an overall number of completed surveys (42,000), as well as a minimum number of surveys completes for each stratum. The number of completed surveys received in 2017 was 43,654 (a decrease of 2,917 completed surveys from 2016 and 7,019 fewer than from the 2015 survey), but still 1,654 more than required. The "overage" in 2017 can be partially attributed to changes in the composition in VISNs and markets between 2016 and 2017 made historical response rate comparisons more challenging.

Each year of data collection provides more information on response rates by strata and helps to refine projections of the estimated number of completed surveys for future rounds. The more

information available, the better our estimate should become for the expected number of completes. While the study is designed to exceed the minimum goal of 42,000 completes, the goal for next year is to reduce further the overage by using 2015 – 2017 results to further refine distribution of the sample.

9.3 Goal: Mail Replacement Survey Requests

A small number of sampled Veterans contacted the Information Center to request a second mail survey be resent to them. These requests were typically the result of the mail survey being lost or damaged, and in some cases, the enrollee was no longer at the mailing address it was originally sent. These individuals wanted to participate in the study, but felt unable to do so. The current process to send a second survey was not efficient enough to print a custom variable data letter and survey booklet to allow the enrollee to receive it in a timely manner. For future rounds of the Survey of Enrollees, it would be desirable to develop a protocol for replacement surveys to enrollees whom request them.

Quality Assurance Measures 10

Throughout the data collection process, Westat implemented a stringent set of quality control and quality assurance (QC/QA) measures to the entire survey development and implementation process, as well as preparation and processing of the survey data. Our QC/QA measures for the Survey of Enrollees were applied during the following survey activities.

- Development and testing of the web survey;
- Development and testing of the mail survey;
- Development of a Survey Management System (SMS); and
- Implementation of mailing procedures.

10.1 Development and Testing of the Web Survey

Westat followed a structured, systematic, and iterative process for developing and testing the web survey instrument. This included the following.

- Testing of the survey to verify all hard and soft edits, validation rules, and skip logics.
- Integration testing across all survey modules to ensure seamless integration, and that all questions, item fills, and skip logics worked as expected.
- Verifying that all question variables were appropriately named (according to client specifications), and that all survey response values were being captured for each survey item.
- Checking that ranges and skip patterns were enforced within the survey instrument.
- Checking that all required survey items were identified and worked as expected.
- Checking that all validation error messages were appropriate.
- Spell checking of all survey questions, survey response options, and all instructions.
- Verifying that the user could navigate through the survey and break off and return to the survey without loss of response data.

- Ensuring the survey worked properly on common operating systems, platforms, resolutions, mobile devices, and smart phones.
- Verifying the web survey met the 2017 refresh Section 508 compliance requirements.
- Ensuring that data could be extracted from the survey database into SAS datasets.
- Verifying that the SAS programs produced output datasets containing the survey variables and response data as expected, and that the data were appropriately labeled (both variable labels and value labels).

Rigorous systems testing were also performed to ensure that all VA enrollees who accessed the web survey could do so without difficulty. This process included the following.

- Specifications testing was performed to ensure that the instruments worked as planned on various browsers (e.g., checking that the content, font, colors and graphics were correct; the overall design and layout were appealing, appropriate, and consistent; navigation, help, and print features worked well; and security measures and confidentiality assurances were in place).
- Web browser compatibility was assessed in Westat's web lab to ensure that the web interface worked effectively with the most common web browsers (e.g., Internet Explorer, Firefox, Mozilla, Safari, Android, Chrome, and Opera) and browser versions (e.g., the two most recent versions of Internet Explorer). We also tested to make sure the survey was accessible by most device platforms (e.g., desktop PCs, mobile devices, and tablets) and that the look and feel of the survey instrument remained stable across a variety of monitor resolutions. Our web-based survey delivery system did not require additional plug-ins for survey respondents or other software installation for successful completion of the surveys. In addition, the web survey was 508-compliant according to the 2017 refresh of compliance standards.
- Beta testing from the point-of-view of users, to assess ease in accessing the web site and logging in, understanding and following the introduction and instructions, providing/changing responses, navigating through the survey, using features and tools, exiting/returning to/submitting the survey, and understanding survey items.
- Post-programming and evaluation testing to make sure all data were captured as specified (e.g., yes=1, no=0) in the survey results database.
- Management system testing to check that stored data were available to generate status reports (e.g., response rate reports, VISN/market reports) and check respondent disposition codes. Westat verified that the sample had been properly loaded. We also conducted system tests to check that only non-respondents received follow-up nonresponse reminders as specified. Stress testing to ensure that multiple simultaneous users could access the survey site.
- User acceptance testing after the survey was initially programmed; Westat staff tested the web survey. Final testing was conducted after all modifications were made. Westat

staff retested web survey functionality to confirm links, logins, and navigation worked as intended. We also reconfirmed that data capture of survey responses followed data specifications.

10.2 Development and Testing of the Mail Survey

Westat used its in-house electronic intelligent data capture system (Teleform) to process the mail surveys. Variable names, labels, and ranges and skip logics are specified in the scanning program. The program is developed to follow questionnaire specifications and enforce specified skip patterns or range checks and only record responses adhering to the intended skip patterns reflected in the survey questions. Prior to the first survey mailing, Westat tested the instruments and validated that responses from the survey were accurately captured.

Westat set up a central project operation to process, verify, and clean the incoming data in a secure FISMA-High environment. We used experienced staff trained in all aspects of processing, including receipt of the data, review, scanning and data verification, as well as quality control. When surveys were received, processing staff reviewed each form as it was prepared for scanning. This included the following steps:

- Developed five versions of the mail survey necessary to support the 2017 methodological experiment.
- Recording the receipt status of each survey, including complete, partial complete, refusals, deceased, postal non-deliverables (PNDs), and other types of nonresponse (when information was available on the survey).
- Determining if the form was scannable. If it was not scannable for any reason (e.g., the form was damaged during shipping), special handling of the form was arranged.
- Documenting responses that were not able to be data captured.
- Once scanned, 100 percent of the surveys were manually verified for any responses where the scanner was unable to verify the survey response. In such instances, a member of the data processing staff visually inspected an image of the questionnaire to ascertain the intended response.
- Approximately 10 percent of the surveys were reviewed during a standard quality control process. During this step, data processing staff reviewed all items on the paper form against the survey database.

Westat performed checks to ensure that any duplicates received (i.e., multiple completed questionnaires from the same individual, possibly from different survey modes) were identified in the processing stream.

10.3 Survey Management System

Westat used a Survey Management System (SMS) to manage the flow of cases throughout the sampling and data collection process.

The SMS is an important element of our quality control process. The following SMS activities supported quality control:

- Loading the sample file with contact information (i.e., name, address, phone number) of sampled Veterans;
- Assigning unique Study IDs and PIN Numbers (for the web survey) to each person sampled;
- Tracking the status and assigning the next activity for non-responders;
- Sending files to the print vendor for the next mailing;
- Receipting questionnaires returned through the web or mail;
- Providing an interface with the Information Center to document contacts and responses;
- Recording the status of IVR reminder calls;
- Allowing updates of contact information from undeliverable mail and new telephone numbers;
- Exporting VHA IDs and disposition codes requested by VA; and
- Providing reports to monitor survey progress.

The SMS ensured that data collection was completed accurately and efficiently, with real-time status information and flexible query capabilities to support both standard and ad-hoc reporting. Reports monitored the progress of each wave, as well as the progress of the quotas required for each sampling stratum.

To ensure security, access to specific functions or data was controlled in the SMS so that each user was only permitted to see aspects of the SMS appropriate for their role in the study.

10.4 Quality Control: Mail Procedures

When conducting surveys with personal identifying information (PII) or other confidential information, Westat's standard practice includes stringent quality control and internal review for all mailings. During the 2017 survey, over 353,000 pieces of mail (invitation letters, postcard reminders, and mail surveys) were mailed to survey respondents.

Westat utilized technologies that improved efficiency and helped minimize overall project costs, including printing the surveys with machine-readable barcodes and unique IDs that identified the survey piece and assisted in preparing packages and accurately receipting returned surveys.

We used both automated and manual processes to ensure that the individual components of a given mailing were correctly assembled and labeled, that the number of survey packets for the mailing corresponded with the number expected, and that all materials expected in the package were included. The following steps were taken to ensure that the mailings were sent properly.

- To ensure that addresses were accurate, Westat used the U.S. Postal Service National Change of Address (USPS NCOA) database.
- In Wave 1, each respondent was randomly assigned to a control or four experimental groups that determined the reliance questions (Questions 18) they would receive. Westat notified the printer which mail survey participants would receive and prior to printing, confirmation was received that the actual number of items printed matched the expected number to be printed for each group.
- Using the unique identification number (ID) assigned to each sample member from our survey management system, we had the ability to track every survey, including the date when mailed to each respondent.
- Correspondence and surveys were generated in the same production runs to ensure that all materials had the appropriate ID codes and were packaged appropriately.

- Once the items were printed and assembled, staff ensured that the number of pieces packaged were consistent with expectations, and systematically performed quality control checks, including:
  - Verified that all materials were properly included in the mailing;
  - Verified that the barcode and the respondent's name were properly in sync;
  - That the print quality met visual standards;
  - That the questionnaires were printed properly and were capable of being scanned by Teleform;
  - That respondent names were properly displayed on the first question; and
  - That the number of pieces with postage matched the number anticipated.
- If any errors were discovered in the process, the percentage of materials that were reviewed were increased during that particular "run" to ensure that all materials were correctly assembled.

Weighting 11

Analysis weights were calculated and attached to the final data set. Calculation of analysis weights consisted of the following steps: (1) calculation of base weights, (2) adjustment for nonresponse, and (3) poststratification adjustment.

11.1 Calculation of Base Weights

The base weight for a sampled Veteran is the reciprocal of the probability the Veteran was selected to participate in the 2017 survey. Because of the large size of the enrollee population, all the sampling probabilities were less than 1. Hence, base weights are greater than 1. This indicates that sampled Veterans are representing themselves, plus other Veterans who were not sampled. For example, if a sampled Veteran's base weight is equal to 100, this indicates that the Veteran is representing himself or herself, plus 99 other Veterans who were not sampled.

The sampling procedures for the 2017 survey were complex. VA selected a first-phase stratified sample, and then using the same strata, Westat selected two second-phase samples, referred to as the Wave 1 and Wave 2 samples. For purposes of computing base weights, however, the Veterans in the Wave 1 or Wave 2 samples can be treated as a single sample selected from the 2017 enrollee population. In previous cycles, the base weight for each Veteran belonging to a particular sampling stratum was equal to the stratum's population size divided by the sum of the Wave 1 and Wave 2 sample sizes for the particular stratum.

However, beginning with the 2017 study, veterans sampled for the 2016 Survey of Enrollees were ineligible for the 2017 Survey of Enrollees and excluded from the sampling frame. To account for the excluded cases, Veterans who were eligible for selection in the 2016 Survey of Enrollees but not sampled were over sampled. Aggregate counts of Veterans in three subsampling groups were provided by VA prior to excluding any Veterans: (1) those sampled for other VA studies within the same year (excluded from the sampling frame), (2) those eligible for other VA studies but not sampled, and (3) those not eligible for other VA studies, i.e., Veterans new to VA. Within each sampling stratum, the base weight for each Veteran in Group 2 was calculated to account for the non-sampled Veterans in Group 1 within the same sampling stratum. That is, the base weight for

each Group 2 Veteran belonging to a particular sampling stratum was equal to the within stratum population size for Groups 1 and 2 divided by the sum of the Wave 1 and Wave 2 Group 2 sample sizes for the particular stratum. The sampled Veterans in Group 3, who were not eligible for sampling in prior cycles, represented only Veterans in Group 3. Therefore, the base weight for each Group 3 Veteran belonging to a particular sampling stratum was equal to the within stratum population size for Group 3 divided by the sum of the Wave 1 and Wave 2 Group 3 sample sizes for the particular stratum.

11.2 Adjustment for Nonresponse

The base weights for the responding Veterans were adjusted for nonresponse—that is, their base weights were multiplied by a factor—referred to as a *nonresponse adjustment factor*—that was greater than 1. This indicated that responding Veterans not only represented themselves and Veterans who were not sampled, but they also represented sampled Veterans who did not respond. As in previous years, the nonresponse adjustment factors were based on estimates obtained from a logistic regression model for the propensity that a sampled Veteran was a respondent given their sampling stratum, demographic data on the sampling frame, experimental-treatment assignment, and health-care utilization information. Creating nonresponse adjustment cells in this manner reduces potential bias to the extent that non-respondents and respondents with similar response probabilities are also similar with respect to the survey statistics of interest.

The following variables were considered as predictors for developing the propensity model:

- The 2017 stratification variables (VISN, priority status, market, enrollee type);
- Stratification variables used in prior years (OEF/OIF/OND, gender, Hispanic);
- Seven administrative health measures;
- Demographic variables (age, urban/rural address); and
- Experimental treatment assignment.

All sampled records were included in the model, weighted by the base weight. Stepwise logistic regression was utilized to determine the model with the best fit. The outcome of the model is the propensity score, the estimated probability that a sampled enrollee is in the final sample of respondents given his or her characteristics.

All but two variables, VISN and the use of VHA pharmacy services, were included in the final model. The variables entered the model in the following order:

- Age category;
- Outpatient treatment: non-mental health and non-substance abuse;
- Market;
- Enrollee type;
- Collapsed priority group;
- Outpatient treatment: mental health or substance abuse;
- Inpatient treatment: non-mental health and non-substance abuse;
- Received long-term care benefits: institutional;
- Urban vs. rural address;
- Inpatient treatment: mental health and substance abuse;
- Gender;
- Experimental treatment assignment;
- Received long-term care benefits: non-institutional;
- Hispanic status; and
- OEF/OIF/OND status.

All of the coefficients for the variables in the model are highly significantly different from zero ($p<0.001$) except for received Hispanic status and OEF/OIF/OND which were marginally significant ($p=0.003$ and $p=0.0489$, respectively).

After estimating each sampled enrollee's probability of completing an interview based on the predictor variables, respondents and non-respondents were grouped into quintiles based on their propensity score. The sample was divided such that each cell had an equal portion of the population. Within each quintile, the respondents' base weights were ratio-adjusted to account for non-respondents. The first quintile represents the enrollees with the lowest response propensity scores; this means that these sampled enrollees are less likely to be respondents; thus, they receive the

largest adjustments. The last quintile represents the sampled enrollees with the highest response propensity scores; this means that these sampled enrollees are more likely to be respondents; thus, they receive the smallest adjustments. Though there were very few ineligible sampled persons—defined as deceased, incapacitated, claimed not to be a Veteran, known ineligible persons in the sample were adjusted with the same adjustment factor as respondents to account for unknown ineligible persons in the sample. Because the adjustment factor for the respondents in the quintile with the lowest response propensity was so large, it was collapsed with the neighboring adjustment cell. Table 11-1 provides the details on the nonresponse adjustment cells.

Table 11-1. Nonresponse adjustment cell definitions, sizes, and adjustment factors

Response Propensity Percentile	# of Respondents	# of Nonrespondents	Weighted Count of Respondents	Weighted Count of Nonrespondents	Adjustment Factor Before Collapsing	Adjustment Factor After Collapsing
0-48	14,922	10,519	998,673	711,170	1.7	1.7
48-61	12,867	15,237	790,728	921,164	2.1	2.1
61-73	9,616	18,918	570,462	1,139,171	3.0	3.0
73-87	5,382	21,410	340,645	1,377,925	5.0	7.5
87-100	1,568	21,082	117,349	1,604,161	14.6	7.5

11.3 Poststratification Adjustment

As was done in previous years, a poststratification adjustment was included as part of the weighting to promote comparability with prior years. The poststratification of the 2017 weights was performed along six dimensions. Five of the dimensions were the same as those used to post-stratify weights prior to 2015, which included enrollee age. Enrollee age was categorized into seven levels: under 35, 35-44, 45-54, 55-64, 65-74, 75-84, and 85+. In 2015 and beyond, we added individual markets as a sixth poststratification dimension because markets were used to stratify the sample.

The following were the six dimensions used to post-stratify the 2017 weights:

- Age x gender (7 x 2 = 14 levels);
- Hispanic status (2 levels);
- Priority group x VISN (8 x 18 = 144 levels);
- OEF/OIF/OND status (2 levels);

- Pre/post-enrollee status (2 levels); and
- Markets (96 levels).

The poststratification adjustment was implemented via a raking, or iterative proportional fitting, algorithm. During each iteration, the non-response-adjusted weight was ratio-adjusted to match population totals along each of the above poststratification dimensions in turn. This iterative process continues until the weighted totals match population totals along all dimensions within a specified tolerance (in this case, by less than 1.00). Convergence was achieved after 12 iterations, indicating a stable adjustment. The poststratified weight was delivered with the collected data and should be used as the analytic weight when generating population estimates.