

evaluated. Furthermore, precision of point estimates was not affected appreciably because of the large size of the study group and the balanced distributions of covariates. Similarly, our conservative approach to identifying important interactions reflected the large number of outcomes being evaluated and a desire to present results in a simple, understandable, yet valid, manner. Moreover, the large size of the study group could have produced statistically significant effect modification even though its magnitude might have been small and its practical importance questionable. Flexibility was achieved by considering a limited number of additional covariates. Nevertheless, the modeling strategy allowed analysis, presentation, and interpretation of results for a very large set of outcomes in a relatively simple, understandable, and reproducible way.

4.3.4 Confounding

For most outcomes, there was little or no evidence of confounding with respect to the six entry characteristics. Crude ORs and ORs from Model 1 were almost always very similar. Occasionally, an OR from Model 2 differed somewhat from the crude OR.

Our control of potential confounding for some covariates, such as cigarette smoking or alcohol use, was imperfect because we could not precisely determine the level of the covariate as of the date of onset of a particular health event. Consider, for example, a veteran who was diagnosed with hypertension at age 27, 10 years before the interview. From the available information, we might know only that he had smoked an average of one pack of cigarettes per day for as long as he was a regular cigarette smoker. We might not know the amount smoked as of the date he was diagnosed with hypertension. In effect, the value of the covariate during the relevant time period could have been misclassified, theoretically leading to incomplete control. This possibility, however, is probably of little practical importance since the distribution for most covariates at the time of interview among Vietnam veterans was very similar to that among other veterans.

A related, though conceptually different, problem may complicate interpretation of some of the results from Model 2. This difficulty occurs because behaviors such as cigarette smoking and alcohol use could have been affected by the Vietnam experience and might be considered as intermediate events in a causal chain leading to disease. Thus, in some analyses, a particular behavior or factor was considered as a possible effect of the Vietnam experience, whereas in analyses of some other outcome, the same behavior might be treated as a confounding or explanatory variable. Fortunately, this problem is mitigated because, for nearly every relevant covariate considered, the distribution among Vietnam veterans was similar to that among other veterans and because, when these covariates were controlled, most of our results were minimally affected.

4.3.5 Unmeasured Characteristics

It would have been desirable to have obtained additional baseline information on veterans (*i.e.*, characteristics measured at entry into the Army) in order to assess the comparability of Vietnam and non-Vietnam veterans more fully. For example, civilian educational level at enlistment was noted in the military records but not abstracted. An indication of the socioeconomic status of veterans' parents would have been useful, but it was not available from military records and not obtained in the interview. Classification of residence at entry as "urban" or "rural" might also have been helpful, but was not attempted.

Other characteristics not measured for all veterans eligible for the VES but which would have shed light on early personality traits include family problems, trouble at school, and

legal problems before entering the Army. Some of these factors were ascertained for the subsample of men who attended the medical examination phase of the VES on the basis of self-report and were used in analyses of certain psychological outcomes (see Volume IV). In any case, the similarity of Vietnam and non-Vietnam veterans with respect to known demographic factors and other measured characteristics suggests that any unmeasured preservice differences were probably not appreciable enough to seriously bias our results.

4.4 STRATIFIED (SUBGROUP) RESULTS

Stratified analyses were conducted for 33 selected health outcomes that included physician-diagnosed diseases (*e.g.*, chloracne, hepatitis, hypertension), somatic symptoms (*e.g.*, headaches, dizziness, excessive hair growth), general indicators of physical and psychosocial health status (*e.g.*, self-rated health status, medication use, limitations in activities, illicit drug use), and psychological symptoms associated with PTSD. The results presented in the detailed tables of Appendix H demonstrate several distinctive patterns:

1. The excess reporting of these 33 outcomes among Vietnam veterans was found for all three racial subgroups, for both draftees and volunteers, and for both younger and older recruits. This internal consistency suggests that the increased reporting of physician-diagnosed conditions, symptoms, and perceived ill-health is independent of certain baseline characteristics of veterans.
2. Among Vietnam veterans, certain health outcomes are associated with combat exposure. Inservice occurrences of malaria, mycoses, and open wounds were related to both self-reported extent of combat and indirect indicators based on military records (*i.e.*, duty MOS and type of unit). Current health problems that are correlated with both types of combat measures include hearing loss, PTSD-like symptoms, and open wounds affecting current health status. Other outcomes occurring in the postdischarge period that were related to self-reported combat exposure but not to the records-based indicators of combat were neurological symptoms, gastrointestinal ulcers, and hypertension.
3. A few health outcomes among both Vietnam and non-Vietnam veterans were associated with illicit drug use in the Army. These outcomes include sexually transmitted diseases incurred during active duty, heavy alcohol use after Army service, history of hepatitis, current use of multiple medications, current prevalence of multiple neurologic symptoms, PTSD-like symptoms experienced in the past 6 months, and use of illicit drugs in the past year.
4. Among Vietnam veterans, each one of the 33 outcomes showed an increasing OR with an increasing score on the herbicide exposure index. Even men who reported the most limited type of exposure (*i.e.*, passing through defoliated areas) reported every outcome more frequently than did Vietnam veterans with no reported exposure. Furthermore, the prevalence of these outcomes among Vietnam veterans with no reported exposure was about the same as that for non-Vietnam veterans. That self-reported herbicide exposure is strongly associated with a very heterogeneous collection of health problems diminishes the possibility that these associations are causal, since it is highly unlikely that one particular chemical product would induce so many different types of health problems.

4.5 OTHER DATA ON VIETNAM VETERANS

In a strict sense, no previous studies are comparable to the VES. Most prior data on the physical health of Vietnam veterans are derived from self-selected groups of veterans whose reported health problems have been noted by private physicians (Bogen, 1979), the VA (Young *et al.*, 1985), and several investigators (Dwyer and Smith, 1981; Stellman and Stellman, 1980). The array of reported ailments seen by those authors, however, parallels the excess reporting by Vietnam veterans in the VES. Thus, our more systematic study of random samples from a well-defined population of veterans confirms the fact that Vietnam veterans, in general, do report higher frequencies of a variety of diseases and symptoms than do non-Vietnam veterans.

Findings from the morbidity phases of the Ranch Hand Study (Lathrop *et al.*, 1984, 1987) are of questionable relevance to our data. These studies involved U.S. Air Force personnel who were engaged in the aerial spraying of herbicides in South Vietnam. A large proportion of this group is composed of commissioned and noncommissioned officers—unlike our sample of short-term enlisted personnel. Furthermore, many in the Ranch Hand group came into direct contact with herbicides (including Agent Orange) in the course of their duties. During the baseline study in 1982, Ranch Handers and comparison Air Force personnel were interviewed about a number of health outcomes. In general, Ranch Handers did not exhibit the pattern of increased reporting of many different types of conditions as did Vietnam veterans in our study. Ranch Hand personnel, however, did rate their general health somewhat worse than did members of the comparison group, and those with a high school education reported a higher frequency of fatigue, anxiety, and depression. Ranch Handers reported kidney problems and certain types of liver conditions (other than hepatitis and cirrhosis) more often than comparison airmen. In the 1985 follow-up study, most of the previous differences in health outcome reporting had diminished or disappeared entirely. Of interest here is the fact that a group of military personnel, many of whom had definite contact with herbicides (including Agent Orange) in Vietnam, did not exhibit the pattern of excess reporting of many different health outcomes that our group of Army Vietnam veterans with questionable herbicide exposure showed. This disparity in reporting may reflect differences in the composition of the two study groups (*i.e.*, baseline factors or military characteristics) and differences in the perception of herbicides (Agent Orange) as a health threat.

Two surveys of Vietnam-era veterans conducted between 1979 and 1981 provide data pertinent to our findings (Card, 1983; Fischer *et al.*, 1980). These particular reports were chosen for special mention, since (1) each was based on a random sample or on a well-defined sample of convenience, (2) each included a comparison group of non-Vietnam veterans, (3) a broad range of outcomes was assessed, and (4) they were the most recent data of these kind on Vietnam veterans. The results of these studies indicate that, about 1980 at least, Vietnam veterans were doing fairly well in terms of several gross social adjustment indicators such as marital history, employment, and schooling. Vietnam veterans, however, reported having had more health problems than other Vietnam-era veterans. Unfortunately, the nature and relative frequencies of specific ailments were not given. Further, in these surveys, Vietnam veterans reported psychological disturbances and alcohol and drug problems more often than other Vietnam-era veterans.

4.6 SYNTHESIS AND INTERPRETATION OF RESULTS

Certain kinds of health problems are to be anticipated among soldiers who serve in a combat zone in a tropical area. These expectations were borne out in the responses of Vietnam veterans in this study. Inservice medical care for malaria, mycoses (*i.e.*, fungal infections), intestinal infections, hearing loss, and open wounds were reported at increased rates by Vietnam veterans, and some of these conditions were most prevalent among men who had the greatest potential for experiencing combat. With the exception of hearing loss, these findings, based on self-report 15 to 20 years after military duty, are consistent with observations made by U.S. Army medical staff in Vietnam during the conflict (U.S. Army Center of Military History, 1977, 1982). Furthermore, some Vietnam veterans said that mycoses, hearing loss, and late effects of open wounds were still affecting them at the time of interview.

Indicators of current socioeconomic status collected in the interview show that Vietnam veterans were about on a par with other Vietnam-era veterans. These indicators include factors such as employment, income, education, type of job, and marital status. Furthermore, cigarette smoking habits and alcohol use patterns were not appreciably different for Vietnam and other veterans.

The effects of combat on the long-term health of Vietnam veterans was assessed crudely by using dichotomous classifications of duty MOS (tactical, nontactical) and type of unit (combat, support) and an index based on self-reported combat experiences. Outcomes such as hearing loss and late effects of open wounds exhibited associations with all three indicators of combat exposure, and, since such a relationship would have been predicted for those outcomes, the associations are noteworthy. The results for hearing loss are supported by previous work showing a relationship between irreversible hearing impairment and the extent of occupational noise exposure among military personnel (Brown, 1985; Man *et al.*, 1975; Walden *et al.*, 1975). Current prevalence of symptoms associated with PTSD showed a definite relationship with all three combat measures. This finding is consistent with those of three previous studies (Card, 1983; True *et al.*, 1988; Yager *et al.*, 1984). Other outcomes occurring after active duty and related only to the index of self-reported combat exposure are neurologic symptoms, gastrointestinal ulcers, and hypertension. That these associations are biologically plausible is suggested by known physiological responses to stress (Zeligans, 1982).

Vietnam veterans reported difficulty conceiving a child more often than did other veterans. Moreover, the difference between the two groups increased when the difficulty was experienced with two or more sexual partners. More frequent reporting of this problem by Vietnam veterans occurred in all three racial subgroups, in younger and older inductees, and in both draftees and volunteers. There was no strong association between this outcome and any component of the Vietnam experience, except for self-reported herbicide exposure. Despite the differences in reported fertility problems, Vietnam veterans have fathered the same number of children (on the average) as non-Vietnam veterans.

The overall increased reporting of a whole range of health outcomes among Vietnam veterans, regardless of race, age at enlistment, and whether or not they were drafted, suggests a real difference in the way many of them perceive their health and report their health history. It appears that, as a group, Vietnam veterans believe that their health is worse than that of their peers, and they have a multitude of ways of expressing that belief. Noteworthy, also, is the fact that these adverse health perceptions and symptoms are

present 15-20 years after the Vietnam military experience. Continued media attention on the Agent Orange issue may have contributed to the persistence of this less-than-ideal state of well-being among Vietnam veterans. Furthermore, we found no evidence to suggest that the increased reporting of diseases is confined to a subgroup of men responding "Yes" to many different conditions.

Deserving of further comment is the strong association between many outcomes (physician-diagnosed diseases as well as symptoms) and self-reported exposure to herbicides in Vietnam. Vietnam veterans who think that they were exposed to herbicides report more health problems than men who were uncertain about exposure or did not think they were exposed. Further, within the "exposed" group, there is a positive gradient with the veteran's assessment of *degree* of exposure. On the other hand, for the subgroup of men who did not admit to any herbicide exposure (43% of the total), outcome reporting resembled that of non-Vietnam veterans. Another related factor is the veteran's opinion about having had a health problem caused by Agent Orange. The subgroup of Vietnam veterans who did not think they had such a problem (60% of the entire group) exhibited a pattern of outcome reporting much the same as that for non-Vietnam veterans, whereas other Vietnam veterans tended to report an increased frequency of many outcomes. Furthermore, the prevalence of multiple psychological symptoms was positively associated with self-reported herbicide exposure, independent of self-assessed combat exposure. Thus, the herbicide exposure index used here may reflect the level of concern Vietnam veterans have about the impact of Agent Orange on their health.

If the excess reporting of many different types of health problems by Vietnam veterans reflects a *real* increase in these conditions, causal factors are not immediately evident. On the one hand, the Vietnam experience can be viewed as a collection of many different "exposures" (*e.g.*, infectious diseases, chemicals, combat), each of which might have been a risk factor for a distinct type of health problem. On the other hand, it is very unlikely that a single biological or chemical factor (such as Agent Orange) would have induced such a heterogeneous array of disorders. Furthermore, results of analyses of residual dioxin body burdens in samples of Vietnam veterans and veterans who served elsewhere suggest absence of widespread heavy exposure to Agent Orange in Vietnam (Centers for Disease Control, in press).

A more general and pervasive type of "exposure," such as stress, could be associated with a wide variety of health problems. Vietnam veterans may have been subject to psychological stress from a number of sources: (1) participation in an unpopular war in a distant country with an unfamiliar climate and culture, (2) combat, (3) return to an unsympathetic homeland, and (4) continuing publicity about Agent Orange as a health hazard to them and their offspring. They may be expressing their reaction to these stressors in the form of bodily symptoms as a means of coping (Kellner, 1987; McGrath, 1982). This somatization phenomenon is not unlike that seen in episodes of mass psychogenic illness in occupational settings (Colligan and Murphy, 1982), among residents living near hazardous waste disposal sites (Roht *et al.*, 1985), in the workforce of the Three Mile Island nuclear power plant at the time of the unintentional release of radiation (Kasl *et al.*, 1981), and among World War II prisoners of war many years after their repatriation (Beebe, 1975). That psychological factors may play a role in the Vietnam veterans' excess reporting of a multitude

of health outcomes is suggested by the attenuated odds ratios obtained after excluding men who experienced three or more psychological symptoms (out of 15) "often" or "very often" during the past 6 months (Table 109).

5. CONCLUSIONS

As a group, Vietnam veterans appear to be similar to other Vietnam-era veterans with respect to indicators of socioeconomic status such as education, income, employment characteristics, and marital status. On the other hand, they appear to differ appreciably from other Vietnam-era veterans in the way they perceive their health and in the number of health problems they report. As a group, Vietnam veterans give their present health a lower rating than non-Vietnam veterans, take more prescribed medications, and report having more limitations in activities. They also report a variety of current symptoms and ailments such as fatigue, nervousness, stomach problems, headaches, and dizziness more often than do other veterans. Vietnam veterans report a history of many physician-diagnosed diseases more often than do their peers. Although the strength of the associations ranged from "weak" (for many diseases) to "strong" for other kinds of outcomes, the *scope* of excess reporting is remarkable. During the 6 months immediately preceding their interviews, Vietnam veterans experienced each of 15 different psychological symptoms more frequently than did non-Vietnam veterans. Further, Vietnam veterans exhibited a symptom pattern consistent with PTSD almost four times as often as other veterans. All of these findings are independent of race, age at enlistment, and enlistment status (drafted, volunteer).

Several reported health problems appear to be associated with the level of self-reported combat exposure and with several indicators of the potential for encountering combat situations derived from military records. These conditions include hearing loss, late effects of open wounds, and symptoms associated with PTSD. Other possible associations with combat exposure involved neurological symptoms, gastrointestinal ulcers, and hypertension. Use of illicit drugs during military service did not appear to affect the subsequent health of Vietnam veterans any more than it did that of other Vietnam-era veterans.

The Vietnam veterans' increased reporting of so many different kinds of health problems may have more than one explanation. The increased reporting could be indicative of a higher prevalence of various physical conditions that are sequelae of psychological stressors associated with Vietnam service and its aftermath. Another possible explanation is Vietnam veterans' selective recall of health problems associated with (1) increased use of medical care, (2) a heightened awareness of their personal health status, (3) the expression of various negative feelings about their military experience, or (4) concern about health hazards of Agent Orange. We cannot, however, fully assess the separate or combined effects of these factors solely on the basis of data from this component of the VES.

Final conclusions about the health (in all its dimensions) of Vietnam veterans must be based on findings from all components of the VES. Detailed results of the other components are reported in other volumes of this five-volume monograph: III. *Medical Examination*, IV. *Psychological and Neuropsychological Evaluation*, and V. *Reproductive Outcomes and Child Health*. A synthesis of all findings is given in Volume I. *Synopsis*.

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APPENDIX A

Introductory Letter and Fact Sheet



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333

Dear Veteran:

The Centers for Disease Control of the U.S. Public Health Service is conducting one of the largest health studies it has ever undertaken. Over 30,000 U.S. Army veterans will be asked to take part in this project, which is called the Veterans Health Survey. The purpose of the Veterans Health Survey is to find out if certain groups of veterans have more health problems than others and, if so, why.

I am writing to ask your cooperation in this very important health research study. Your name was chosen from Army service records using a scientific random selection procedure.

The enclosed Fact Sheet explains this study in detail. It should answer most questions you may have about how you were selected, what will happen to any information you provide, and the precautions that will be taken by the Centers for Disease Control to protect your privacy and other rights.

Each veteran selected for this study will be invited to take part in a telephone interview about his health and general background. The interviews will be conducted by professional interviewers from Research Triangle Institute, a private research firm located in North Carolina.

In the near future, an interviewer from Research Triangle Institute will try to reach you by telephone. If you have no telephone, if you have an unlisted number, or if you would simply like to schedule your interview at a convenient time, please call 1-800-334-3494, which is RTI's toll-free number. (If you live in North Carolina or outside the 48 contiguous United States, please call 1-919-541-6869 collect.) Give the operator your name, the ID number in the lower left corner of this letter, and a telephone number and time when you can be reached.

If you have questions or would like more information about this study, you may call or write Robert C. Diefenbach, Centers for Disease Control (C-25), 1600 Clifton Road, Atlanta, Georgia 30333 (Phone: 404-454-4472).

We hope we can count on your participation in the Veterans Health Survey.

Sincerely yours,

James O. Mason, M.D., Dr. P.H.
Assistant Surgeon General
Director

Enclosure

THE VETERANS HEALTH SURVEY - FACT SHEET

What is the Veterans Health Survey?

The Veterans Health Survey is one of the largest scientific research studies ever undertaken on the health problems of veterans. Through interviews with over 30,000 Army veterans, the Centers for Disease Control of the U.S. Public Health Service will collect information that will be used to find out if certain groups of veterans have more health problems than others, and if so, why these health problems may have occurred.

Why have I been selected?

Your name was randomly selected from Army service records of men who were in military service during the 1960's and 1970's. Since it would not be possible to interview all veterans who were in service during this period, a sample was chosen. Your answers will represent thousands of other veterans who are similar to you in terms of age, background, military experience, and other characteristics. Since you have been chosen to represent others, we cannot replace you. The scientific selection procedure requires that we interview as many selected veterans as possible so that the results of this study will be accurate and complete.

What kind of questions will I be asked?

The interviewer will ask you about your health, including illnesses or health problems you may have had, visits you have made to doctors and hospitals, and any limitations or disabilities you may have; your marital and family status, including number of children and health problems they may have; your employment history; your tour of duty in the Army; your health habits; and general background information that will be used to classify your answers with those of other veterans with similar characteristics.

What happens to the information I give the interviewer?

The telephone interviewer at Research Triangle Institute will enter your answers into a computer as you go through the interview. The answers from all of the interviews will be combined into tables of numbers. The names of participants will never be associated with their answers in the statistical summaries studied by scientists. Names and other identifying information, such as addresses and social security numbers or service numbers, will be kept in a separate file that no one will have access to but the U. S. Public Health Service and the private research firms working on this study. No other researchers or government agencies, including the Veterans Administration and the Department of Defense, will be able to learn if you participated or what your answers were.

The authority for collecting this information and the promise of complete confidentiality are contained in Sections 304, 306, and 308 (d) of the Public Health Service Act [42 U.S.C. 242b, 242k, and 242m (d)]. Unless you give written permission to the Centers for Disease Control to release personal information, no one, including your family, will ever be able to get that personal information.

Why should I do this?

Your participation in the Veterans Health Survey is voluntary. However, if you decide not to be interviewed, the data we collect will be less accurate and complete.

Representatives of the national veterans' service organizations are aware of the Veterans Health Survey and its importance in identifying health problems of veterans. There is no penalty if you decide not to participate. Your decision will not affect any benefits you may be receiving or to which you may be entitled in the future. While there may be no tangible benefit to you as an individual from participating in the study, veterans as a group may benefit from this research in the future.

Who is Research Triangle Institute?

Research Triangle Institute (RTI) is a private, not-for-profit research organization that was established in 1959 by three major universities in North Carolina's Research Triangle area--the University of North Carolina at Chapel Hill, North Carolina State University in Raleigh, and Duke University in Durham.

RTI conducts research projects under contracts or grants from Federal, state, and local government agencies, private industries, public service agencies, and foundations and associations. RTI has conducted many health surveys, which is one important reason the Centers for Disease Control selected RTI to collect data for the Veterans Health Survey.

The RTI Project Director for the Veterans Health Survey is Mr. Michael Weeks. His address is: P. O. Box 12194, Research Triangle Park, North Carolina 27709. His telephone number is (919) 541-6026.

How long is this interview going to take?

The answer to this question depends on your personal health history. Every interview will be different, since your experiences will be different from other veterans who were interviewed before you. At a minimum, we think the interview will take 20 to 40 minutes of your time. If we call at a time that is not convenient for you, simply tell the interviewer, who will schedule an appointment at a more convenient time. If you begin the interview and decide that you do not wish to answer one or more questions, simply tell the interviewer and he or she will respect your right not to answer.

Will participants in this survey be contacted after the interview?

The Centers for Disease Control has planned a comprehensive, three-day medical examination as part of its overall study of veterans health. The medical examination will provide more detailed information about health status. Since it is not possible to conduct exams on all veterans who are interviewed, CDC will select about one out of every three for that part of the study. Selection will be done on a completely random basis and will not depend on answers given in the telephone interview. Of course, participation in the medical examination is entirely voluntary. Apart from this, it is possible that the Centers for Disease Control may want to contact you in connection with future phases of this study.

How can I learn about the results of this study?

Scientists at the Centers for Disease Control will analyze the information collected from veterans like yourself and publish their findings. Since considerable public attention is focused on this study, you can expect the news media to announce the results as they are released.

APPENDIX B
***Questions Veterans Might Ask Interviewers,
With Predetermined Answers***

**QUESTIONS VETERANS MIGHT ASK INTERVIEWERS,
WITH PREDETERMINED ANSWERS.**

How did you get my name?

More than 43,000 names of Army veterans were selected at random from military service records. We can't possibly interview *all* veterans from the 1960's and 1970's, so a scientific sample was selected and your name is included in the sample.

How did you find me after all this time?

In general, we used information contained in Army service records together with various national and local sources to locate veterans selected for this survey. I am not able to tell you exactly what sources were used to locate you as an individual because I don't have that information on my computer terminal.

What is this study about?

It is a large health study being conducted by the Centers for Disease Control of the U.S. Public Health Service. Selected Army veterans will be interviewed about their tour of duty in the Army and a number of health-related topics to find out if certain groups of veterans have more health problems than others and, if so, why.

Do I have to do the interview?

Your participation is voluntary, but we hope you will decide to take part since your answers will represent thousands of other Army veterans like you.

How do I know that this survey is legitimate?

I will be happy to give you the names and telephone numbers of survey managers at Research Triangle Institute and the Centers for Disease Control so that you can confirm the legitimacy of the Veterans Health Survey. RTI - Mike Weeks, Project Director (800) 334-8571, CDC - Robert C. Diefenbach (404) 454-4472.

Has this study been cleared by OMB?

Yes. The OMB number is 2900-0428, and approval expires on December 31, 1987.

Can you send me a copy of the interview before I agree to participate?

I would like to, but the interview is in a computerized form and I don't have a printed version to send you. Let's go ahead and start. If there are one or more questions that you do not want to answer, simply tell me and I will move on.

How long will the interview take?

The length of the interview varies with each veteran, since your experiences are different from those of other veterans I have interviewed. At minimum, the interview will take 20 to 40 minutes. I'll move through the interview as quickly as I can so that we will take as little of your time as possible.

What about the medical examination? (FOR USE PRIOR TO DETERMINATION OF SELECTION STATUS)

The Centers for Disease Control has planned a comprehensive, three-day medical examination as part of its overall study of veterans' health. Since it is not possible to conduct exams

on all veterans who are interviewed, CDC will select about one out of every three for that part of the study. Selection will be done on a completely random basis and will not depend on answers given in the telephone interview.

Have I been selected for the medical examination? (FOR USE PRIOR TO DETERMINATION OF SELECTION STATUS)

I do not know right now whether you have been selected. At the end of the interview, our computer automatically selects veterans at random for the medical examination. If you are chosen, I will tell you at that time.

Have I been selected for the medical examination? (USE ONLY FOR NON-SELECTED VETERANS AT END OF INTERVIEW)

No, you have not. Only a third of interview respondents have been selected and you are not in that group.

Can you give me more information about the medical exam? (USE ONLY FOR SELECTED VETERANS WHO HAVE BEEN INFORMED OF THEIR SELECTION)

The medical examination component of this study will be conducted by the Lovelace Medical Foundation in Albuquerque, New Mexico. This three-day examination will be offered at a time convenient to you and at no cost. All expenses including travel, lodging, and meals will be paid. A representative from Lovelace will contact you in the near future to discuss arrangements and answer any questions you may have. As with this interview, your participation will be completely voluntary.

Does this survey have anything to do with Agent Orange?

This study (conducted by the Centers for Disease Control of the U.S. Public Health Service) will examine the possible relationships between health problems of veterans and conditions of military service, such as duty locations. Some of the questions in the interview ask about service in Vietnam and possible exposure to Agent Orange.

Does this survey have anything to do with the out-of-court settlement with the chemical companies that made Agent Orange and other herbicides?*

No. This study is a completely independent research project conducted by the Centers for Disease Control.

Does the Veterans Administration have anything to do with this study?

No. The Centers for Disease Control is the sole research agency responsible for the scientific design, conduct, and reporting of results of this study.

Why are "psychological" questions part of the Veterans Health Survey?

The Veterans Health Survey is intended to examine a wide range of health-related matters of concern to veterans. Mental and emotional experiences, as well as physical condition, are part of everyone's overall health status and, so, are included in the Survey.

* Dow Chemical Company and other manufacturers agreed in May 1984 to an out-of-court settlement of \$180 million as a result of a class-action suit by a group of Vietnam veterans.

Why is the Centers for Disease Control doing this study?

The Centers for Disease Control was given the responsibility of conducting the Veterans Health Survey because of its excellent reputation as a national public health agency and its past record of carrying out scientific studies in a timely and impartial manner.

Since I did not serve in Vietnam, why should I participate in the study?

All veterans selected for the study are equally important, regardless of where they served. The survey will look at health issues of concern to *all* veterans. In addition, to find out if the location where a veteran served affects his health, we must be able to compare one location against another.

Since I am relatively healthy and have had no major illnesses, why should I participate in the study?

In a scientific study such as this one, we must interview both healthy veterans and those who have been ill. That way we can project the *risk*, or *chance*, of developing serious health problems in different groups of veterans.

How can I learn about the results of this study?

All information we collect from veterans like yourself will be provided to the Centers for Disease Control. Scientists there will analyze this information and publish reports of their findings in leading medical journals after the conclusion of this study. Since considerable public attention is focused on this study, you can expect the news media to announce study findings as they are released.

APPENDIX C

Questionnaire

VIETNAM EXPERIENCE STUDY QUESTIONNAIRE:

***Computer-Assisted Telephone
Interview Reference Version***

OMB No. 2900-0428
Expires December 31, 1987

Prepared by Research Triangle Institute

INTRODUCTION

IN-A. Hello, Mr. (LAST NAME). My name is (NAME) from Research Triangle Institute. I am calling for the Centers for Disease Control of the U.S. Public Health Service. Under authority of the Public Health Service Act, we are conducting a nationwide study of the health of U.S. Army veterans called the Veterans Health Survey.

You should have received a letter describing this important study from Dr. James Mason, the Director of the Centers for Disease Control.

Do you remember receiving this letter?

- 1 = YES → SKIP TO IN-E.
- 2 = NO

IN-B. I'm sorry that you haven't received the letter. We mailed the letter to (ADDRESS), (CITY, STATE, ZIP).

Is that your correct mailing address?

- 1 = YES → Apparently it has been delayed in the mail, but let me briefly tell you what it says.
- 2 = NO → I will get your correct address later, but let me briefly tell you what it says.

IN-C. The Centers for Disease Control is a nationally recognized public agency that specializes in health-related research. The purpose of the Veterans Health Survey is to find out if certain groups of Army veterans have more health problems than others, and if so, why. You are one of approximately 40,000 veterans who have been selected at random from Army records to be invited to participate in this important study. Our records show that you served in the Army from (ENTRY YEAR) to (DISCHARGE YEAR). Is that correct?

- 1 = YES
- 2 = NO → Before we continue, let me be sure that you are the Veteran we need to talk to. → SKIP TO ID-1A.

IN-D. An important part of this study is a 20 to 40 minute telephone interview about your tour of duty in the Army and a number of health related topics. Participation in the survey is voluntary. There is no penalty for not participating, nor will it affect any benefits you may be entitled to. However, you are very important to the study because your answers will represent thousands of other Army veterans like you. In addition, although there may be no direct benefit to you from participation, we feel that the survey results may benefit all veterans as a group.

We can assure you that no one outside of the U.S. Public Health Service and the private research firms working on this study will know you have participated or what information you gave.

SKIP TO IN-F.

IN-E. The letter you received described the Veterans Health Survey, which will involve telephone interviews with over 30,000 Army veterans. You are very important to us because your answers will represent thousands of other Army veterans like you. In addition, we feel the survey results may benefit all veterans as a group. Your answers will be held in complete confidence by the Centers for Disease Control.

IN-F. Unless you have questions or would like more information, I would like for us to begin the interview now. If at any time you decide that you do not wish to answer one or more questions, just let me know and I will go on to the next question.

ANSWER ANY QUESTIONS BEFORE CONTINUING.

IS SUBJECT WILLING TO BEGIN INTERVIEW?

1 = YES

2 = NO - NEED TO SCHEDULE A CALLBACK APPOINTMENT

3 = NO - SUBJECT REFUSES INTERVIEW

IDENTIFICATION

(IF ID QUESTIONS HAVE ALREADY BEEN COMPLETED, SKIP TO SECTION A.)

ID-1A. Is your correct name (FIRST NAME, MIDDLE INITIAL OR NAME, LAST NAME, SUFFIX)?

1 = YES → SKIP TO ID-2A.

2 = NO (ENTER NO IF ANY PART OF NAME IS INCORRECT.)

ID-1B. What is your correct name?

ENTER THE CORRECT FIRST NAME (LIMIT OF 15 CHARACTERS).

ID-1C. ENTER THE CORRECT MIDDLE INITIAL OR NAME (LIMIT OF 10 CHARACTERS). (IF NO MIDDLE NAME, ENTER "8".)

ID-1D. ENTER THE CORRECT LAST NAME (LIMIT OF 20 CHARACTERS).

ID-1E. ENTER THE CORRECT SUFFIX; i.e., JR., SR. (LIMIT OF 3 CHARACTERS). (IF NO SUFFIX, ENTER "888")

ID-2A. Is your date of birth (MONTH, DAY, YEAR)?

1 = YES → SKIP TO ID-3A.

2 = NO

ENTER THE CORRECT DATE OF BIRTH:

ID-2B. MONTH - (1-12) _____

ID-2C. DAY - (1-31) _____

ID-2D. YEAR - (LAST 2 DIGITS ONLY) _____

ID-3A. Were you born in (CITY, STATE/COUNTRY)?

1 = YES → SKIP TO ID-4A.
2 = NO

In what city and state were you born?

ENTER THE CORRECT CITY OF BIRTH (LIMIT 15 CHARACTERS).

ID-3B. CITY: _____

ENTER THE CORRECT STATE OR FOREIGN COUNTRY OF BIRTH ABBREVIATION
(2 LETTERS).

ID-3C. STATE: _____

ID-4A. (IF IN-C IS YES, SKIP TO CHECKPOINT; IF IN-C IS NO OR DK OR RE,
SKIP TO ID-4B.)

Did you serve in the Army from (ENTRY YEAR) to (DISCHARGE YEAR)?

1 = YES → SKIP TO CHECKPOINT BELOW.
2 = NO

ID-4B. What year did you enter the Army?

RECORD LAST 2 DIGITS OF YEAR.

ID-4C. What year did you leave the Army?

RECORD LAST 2 DIGITS OF YEAR.

CHECKPOINT

- (1) IF IN-C = YES OR BLANK AND ID-1A = YES AND ID-2A = YES AND ID-3A = YES
AND ID-4A = YES OR BLANK, THEN GO TO A-01.
(2) IF IN-C = NO OR ID-1A = NO OR ID-2A = NO OR ID-3A = NO OR ID-4A = NO,
THEN GO TO INTERVIEWER BOX BELOW.

INTERVIEWER BOX

IN YOUR BEST JUDGMENT, ARE YOU SPEAKING WITH THE CORRECT RESPONDENT?

- 1 = YES → CONTINUE WITH SECTION A UNLESS IN-C WAS "NO," IN WHICH
CASE, RETURN TO IN-D.
2 = NO → DISCONTINUE INTERVIEW.

SECTION A. GENERAL HEALTH HISTORY

My first questions are about your general health, as well as some specific health conditions. For some questions, you will need to answer only "yes" or "no". For others, I will ask you to give me a more detailed answer or description. Please take time to think carefully about each question and give me the most accurate answer you can.

- * A-01. Would you say your health in general is excellent, good, fair, or poor?

1 = EXCELLENT
2 = GOOD
3 = FAIR
4 = POOR

- * A-02. How tall are you without shoes?

ENTER NUMBER OF FEET (RANGE = 4 - 7).

FEET: _____

ENTER NUMBER OF INCHES (RANGE = 0 - 11).

INCH: _____

- * A-03. How much do you weigh without clothes or shoes?

ENTER THE NUMBER OF POUNDS ROUNDED TO NEAREST POUND.
(RANGE = 75 - 500).

POUNDS: _____

- * A-04A. Are you currently taking any type of medication that was prescribed for you by a doctor, dentist, or other medical person?

1 = YES
2 = NO → SKIP TO A-07.

A-05A. I will need to record the names of each of the prescribed medications that you are currently taking. Since I need to spell the medication names correctly, it would be helpful if you would read the names from the container. (ALLOW RESPONDENT TO RETRIEVE CONTAINERS.)

MEDICATION 1

What is the name of the medication you most frequently take?

ENTER THE MEDICATION NAME (LIMIT OF 30 CHARACTERS).

- A-06A. What is the main condition for which you take this medication? What did the doctor say the problem was?

(PROBE: What part of the body is affected?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-04B. Are you currently taking any other prescribed medication?

1 = YES

2 = NO → SKIP TO A-07.

MEDICATION 2

A-05B. What is the name of the second prescribed medication you are taking?

ENTER THE MEDICATION NAME (LIMIT OF 30 CHARACTERS).

A-06B. What is the main condition for which you take this medication? What did the doctor say the problem was?

(PROBE: What part of the body is affected?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-04C. Are you currently taking any other prescribed medication?

1 = YES

2 = NO → SKIP TO A-07.

MEDICATION 3

A-05C. What is the name of the third prescribed medication you are taking?

ENTER THE MEDICATION NAME (LIMIT OF 30 CHARACTERS).

A-06C. What is the main condition for which you take this medication? What did the doctor say the problem was?

(PROBE: What part of the body is affected?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

* A-07. Has a doctor or other medical person ever told you that you had chloracne--that is, acne related to a chemical exposure, not regular acne?

1 = YES

2 = NO → SKIP TO A-13.

A-08. What parts of your body were affected?

ENTER ALL THAT APPLY - UP TO 4 CODES.

1 = ALL OVER BODY	5 = BACK, SHOULDERS, BUTTOCKS
2 = FACE, NECK, SCALP, EARS	6 = GROIN
3 = ARM, HAND, FINGERS	7 = THIGH, LEG, KNEE, ANKLE,
4 = CHEST, ABDOMEN	FOOT, TOES

A-09. In what year did you first develop chloracne?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

A-10. What chemical caused your chloracne?

ENTER THE CHEMICAL NAME (LIMIT OF 40 CHARACTERS).

IF DK, SKIP TO A-13.

A-11. Were there any other chemicals that caused your chloracne?

1 = YES
2 = NO → SKIP TO A-13.

A-12. What other chemical caused your chloracne?

ENTER THE CHEMICAL NAME (LIMIT OF 40 CHARACTERS).

* A-13. Since your discharge from active duty in (DISCHARGE YEAR), have you had excessive hair growth on any part of your body?

1 = YES
2 = NO → SKIP TO A-16.

A-14. What parts of your body were affected?

ENTER ALL THAT APPLY - UP TO 4 CODES.

1 = ALL OVER BODY	5 = BACK, SHOULDERS, BUTTOCKS
2 = FACE, NECK, SCALP, EARS	6 = GROIN
3 = ARM, HAND, FINGERS	7 = THIGH, LEG, KNEE, ANKLE,
4 = CHEST, ABDOMEN	FOOT, TOES

A-15. In what year did you first notice this excessive hair growth?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-16. Since your discharge from active duty, have you seen a doctor or other medical person because of any type of skin condition (other than chloracne)?

1 = YES
2 = NO → SKIP TO A-21.

SKIN CONDITION 1

A-17A. Please describe the most recent skin condition for which you have seen a doctor or other medical person. What did the doctor say the problem was?

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-18A. What parts of your body were affected by this condition?

ENTER ALL THAT APPLY - UP TO 4 CODES.

1 = ALL OVER BODY	5 = BACK, SHOULDERS, BUTTOCKS
2 = FACE, NECK, SCALP, EARS	6 = GROIN
3 = ARM, HAND, FINGERS	7 = THIGH, LEG, KNEE, ANKLE,
4 = CHEST, ABDOMEN	FOOT, TOES

A-19A. Did you first notice this condition before, during, or after your active duty in the Army?

1 = BEFORE
2 = DURING
3 = AFTER

A-20A. Have you had any other skin condition since being discharged for which you've seen a doctor?

1 = YES
2 = NO → SKIP TO A-21.

SKIN CONDITION 2

A-17B. Please describe this other skin condition. What did the doctor say the problem was?

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-18B. What parts of your body were affected by this condition?

ENTER ALL THAT APPLY - UP TO 4 CODES

1 = ALL OVER BODY	5 = BACK, SHOULDERS, BUTTCKS
2 = FACE, NECK, SCALP, EARS	6 = GROIN
3 = ARM, HAND, FINGERS	7 = THIGH, LEG, KNEE, ANKLE, FOOT, TOES
4 = CHEST, ABDOMEN	

A-19B. Did you first notice this condition before, during, or after your active duty in the Army?

1 = BEFORE
2 = DURING
3 = AFTER

A-20B. Have you had any other skin condition since being discharged for which you've seen a doctor?

1 = YES
2 = NO → SKIP TO A-21.

SKIN CONDITION 3

A-17C. Please describe this other skin condition. What did the doctor say the problem was?

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-18C. What parts of your body were affected by this condition?

ENTER ALL THAT APPLY - UP TO 4 CODES.

1 = ALL OVER BODY	5 = BACK, SHOULDERS, BUTTCKS
2 = FACE, NECK, SCALP, EARS	6 = GROIN
3 = ARM, HAND, FINGERS	7 = THIGH, LEG, KNEE, ANKLE, FOOT, TOES
4 = CHEST, ABDOMEN	

A-19C. Did you first notice this condition before, during, or after your active duty in the Army?

1 = BEFORE
2 = DURING
3 = AFTER

A-20C. Have you had any other skin condition since being discharged for which you've seen a doctor?

- 1 = YES
- 2 = NO → SKIP TO A-21.

SKIN CONDITION 4

A-17D. Please describe this other skin condition. (What did the doctor say the problem was?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-18D. What parts of your body were affected by this condition?

ENTER ALL THAT APPLY - UP TO 4 CODES.

- | | |
|-----------------------------|---|
| 1 = ALL OVER BODY | 5 = BACK, SHOULDERS, BUTTOCKS |
| 2 = FACE, NECK, SCALP, EARS | 6 = GROIN |
| 3 = ARM, HAND, FINGERS | 7 = THIGH, LEG, KNEE, ANKLE, FOOT, TOES |
| 4 = CHEST, ABDOMEN | |

A-19D. Did you first notice this condition before, during, or after your active duty in the Army?

- 1 = BEFORE
 - 2 = DURING
 - 3 = AFTER
-

* A-21. Since your discharge from active duty in (DISCHARGE YEAR), has a doctor told you that you had anemia or "tired blood"?

- 1 = YES
- 2 = NO

* A-22. Since your discharge, has a doctor told you that you had infectious mononucleosis or "mono"?

- 1 = YES
- 2 = NO

* A-23. Has a doctor ever told you that you have diabetes?

- 1 = YES
- 2 = NO → SKIP TO A-25A.

A-24. In what year were you first told by a doctor that you had diabetes?

ENTER LAST 2 DIGITS OF YEAR.

(EDIT 1)

* A-25A. Has a doctor ever told you that you had cancer of any kind?

1 = YES

2 = NO → SKIP TO A-28A.

CANCER 1

A-26A. In what year were you first told you had cancer?

ENTER LAST 2 DIGITS OF YEAR.

(EDIT 1)

A-27A. What type of cancer did the doctor say you had?

RECORD CANCER TYPE (LIMIT OF 40 CHARACTERS).

A-25B. Were you ever told that you had a second type of cancer, one that was not spread from the one you just told me about?

1 = YES

2 = NO → SKIP TO A-28A.

CANCER 2

A-26B. In what year were you told you had the second type of cancer?

ENTER LAST 2 DIGITS OF YEAR.

(EDIT 1)

A-27B. What type of cancer did the doctor say you had then?

RECORD CANCER TYPE (LIMIT OF 40 CHARACTERS).

A-25C. Were you ever told that you had a third type of cancer, one that was not spread from either of the first two cancers?

1 = YES

2 = NO → SKIP TO A-28A.

CANCER 3

A-26C. In what year were you told you had the third type of cancer?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1)

A-27C. What type of cancer did the doctor say you had then?

RECORD CANCER TYPE (LIMIT OF 40 CHARACTERS).

* A-28A. Has a doctor or other medical person ever told you that you had a non-cancerous or benign tumor, growth, or cyst?

1 = YES
2 = NO → SKIP TO A-31A.

BENIGN GROWTH 1

A-29A. In what year were you first told you had a benign tumor, growth, or cyst?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

A-30A. What type of benign tumor, growth, or cyst did the doctor say you had and where was it located?

RECORD TYPE AND PART OF BODY (LIMIT OF 40 CHARACTERS).

A-28B. Has a doctor ever told you that you had any other type of benign tumor, growth or cyst?

1 = YES
2 = NO → SKIP TO A-31A.

BENIGN GROWTH 2

A-29B. In what year were you first told you had this second tumor, growth, or cyst?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

A-30B. What type of tumor, growth or cyst did the doctor say you had and where was it located?

RECORD TYPE AND PART OF BODY (LIMIT OF 40 CHARACTERS).

A-28C. Has a doctor or other medical person ever told you that you had any other type of benign tumor, growth, or cyst?

1 = YES
2 = NO → SKIP TO A-31A.

BENIGN GROWTH 3

A-29C. In what year were you first told you had this third tumor, growth, or cyst?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

A-30C. What type of tumor, growth, or cyst did the doctor say you had and where was it located?

RECORD TYPE AND PART OF BODY (LIMIT OF 40 CHARACTERS).

* A-31A. Has a doctor ever told you that you had cirrhosis of the liver?

1 = YES
2 = NO → SKIP TO A-32A.

A-31B. In what year were you first told that you had cirrhosis of the liver?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-32A. Has a doctor ever told you that you had hepatitis or jaundice?

1 = YES
2 = NO → SKIP TO A-33A.

A-32B. In what year were you first told that you had hepatitis or jaundice?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-33A. Has a doctor ever told you that you had porphyria (por-fear-ree-ah)?

1 = YES
2 = NO → SKIP TO A-34A.

A-33B. In what year were you first told that you had porphyria?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-34A. Has a doctor ever told you that you had a liver abcess?

1 = YES
2 = NO → SKIP TO A-35A.

A-34B. In what year were you first told that you had a liver abcess?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-35A. Has a doctor ever told you that you had any other type of liver condition?

1 = YES
2 = NO → SKIP TO A-36A.

A-35B. What type of liver condition did the doctor say it was?

ENTER CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-35C. In what year did a doctor first tell you that you had this condition?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-36A. Has a doctor ever told you that you had an esophageal ulcer?

1 = YES
2 = NO → SKIP TO A-37A.

A-36B. In what year were you first told that you had an esophageal ulcer?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-37A. Has a doctor ever told you that you had a gastric, stomach, or peptic ulcer?

1 = YES

2 = NO → SKIP TO A-38A.

A-37B. In what year were you first told that you had a gastric, stomach, or peptic ulcer?

ENTER LAST 2 DIGITS OF YEAR.

(EDIT 1.)

* A-38A. Has a doctor ever told you that you had a duodenal or intestinal ulcer?

1 = YES

2 = NO → SKIP TO A-39A.

A-38B. In what year were you first told you had a duodenal or intestinal ulcer?

ENTER LAST 2 DIGITS OF YEAR.

(EDIT 1.)

* A-39A. Since your discharge from active duty, has a doctor or other medical person told you that you had any type of kidney, bladder, or urinary tract problem?

1 = YES

2 = NO → SKIP TO A-42A.

KIDNEY 1

A-40A. What did the doctor say the problem was?

(PROBE: What part of the body is affected?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-41A. In what year did a doctor first tell you that you had this condition?

ENTER LAST 2 DIGITS OF YEAR.

(EDIT 1.)

A-39B. Since your discharge, has a doctor told you that you had any other type of kidney, bladder, or urinary tract problem?

1 = YES
2 = NO → SKIP TO A-42A.

KIDNEY 2

A-40B. What did the doctor say the problem was?

(PROBE: What part of the body is affected?)
(PROBE: What kind of (KEYWORD) is it?)
ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-41B. In what year did a doctor first tell you that you had this condition?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

A-39C. Since your discharge, has a doctor told you that you had any other type of kidney, bladder, or urinary tract problem?

1 = YES
2 = NO → SKIP TO A-42A.

KIDNEY 3

A-40C. What did the doctor say the problem was?

(PROBE: What part of the body is affected?)
(PROBE: What kind of (KEYWORD) is it?)
ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-41C. In what year did a doctor first tell you that you had this condition?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

* A-42A. Have you had a vasectomy?

1 = YES
2 = NO → SKIP TO A-43A.

A-42B. In what year?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 3.)

* A-43A. Have you ever been told by a doctor or other medical person that you had high blood pressure or hypertension?

1 = YES
2 = NO → SKIP TO A-44.

A-43B. In what year were you first told you had high blood pressure (or hypertension)?

ENTER LAST 2 DIGITS OF YEAR. (EDIT 1.)

A-43C. Has a doctor or other medical person ever advised you to lose weight because of high blood pressure (or hypertension)?

1 = YES
2 = NO

A-43D. Has a doctor ever prescribed medicine for your high blood pressure (or hypertension)?

1 = YES
2 = NO

* A-44. My next questions ask about symptoms you may have had during the past 4 weeks. During the past 4 weeks, have you been bothered by persistent or migraine headaches?

1 = YES
2 = NO

* A-45. During the past 4 weeks, have you been bothered by twitching, tics, or tremors?

1 = YES
2 = NO

* A-46. (During the past 4 weeks,) have you been bothered by dizziness?

1 = YES
2 = NO

* A-47. (During the past 4 weeks,) have you been bothered by loss of feeling, numbness, or tingling in your feet or hands?

1 = YES
2 = NO

* A-48. (During the past 4 weeks,) have you been bothered by weakness in your arms or legs?

1 = YES
2 = NO

* A-49. (During the past 4 weeks,) have you been bothered by soreness in the muscles of your arms, hands, legs, or feet?

1 = YES
2 = NO

* A-50. (During the past 4 weeks,) have you been bothered by ringing or other funny noises in one or both ears?

1 = YES
2 = NO

* A-51A. My next questions are about any overnight hospital stays you may have had since you were discharged from active duty. Please think carefully about the entire period from your discharge to the present time. Since your discharge from active duty in (DISCHARGE YEAR), have you been a patient in a hospital overnight or longer?

1 = YES
2 = NO → SKIP TO A-56.

HOSPITAL STAY 1

A-52A. In what year did you first go to the hospital after your discharge from active duty?

ENTER THE LAST 2 DIGITS OF THE YEAR. (EDIT 2.)

A-53A. What was the main condition for which you entered the hospital? What did the doctor say the problem was?

(PROBE: What part of the body was affected?)
(PROBE: What kind of (KEYWORD) was it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-54A. Were you hospitalized overnight or longer for this same condition any other time since your discharge?

1 = YES
2 = NO → SKIP TO A-51B.

A-55A. Not counting the hospitalization we just talked about, how many other times have you been hospitalized for this same condition (since your discharge)?

ENTER NUMBER OF TIMES. (RANGE 1-20.)

A-51B. Since your discharge, have you been hospitalized overnight or longer for any other health problem or condition besides the one you just told me about?

1 = YES
2 = NO → SKIP TO A-56.

HOSPITAL STAY 2

A-52B. In what year did you first go to the hospital for this other condition (after your discharge from active duty)?

ENTER THE LAST 2 DIGITS OF THE YEAR. (EDIT 2.)

A-53B. What was the main condition for which you entered the hospital? What did the doctor say the problem was?

(PROBE: What part of the body was affected?)
(PROBE: What kind of (KEYWORD) was it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-54B. Were you hospitalized overnight or longer for this same condition any other time since your discharge?

1 = YES
2 = NO → SKIP TO A-51C.

A-55B. Not counting the hospitalization we just talked about, how many other times have you been hospitalized for this same condition (since your discharge)?

ENTER NUMBER OF TIMES. (RANGE = 1-20.)

A-51C. Since your discharge, have you been hospitalized overnight or longer for any other health problem or condition besides the ones you've already told me about?

1 = YES
2 = NO → SKIP TO A-56.

HOSPITAL STAY 3

A-52C. In what year did you first go to the hospital for this other condition (after your discharge from active duty)?

ENTER THE LAST 2 DIGITS OF THE YEAR. (EDIT 2.)

A-53C. What was the main condition for which you entered the hospital? What did the doctor say the problem was?

(PROBE: What part of the body was affected?)
(PROBE: What kind of (KEYWORD) was it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-54C. Were you hospitalized overnight or longer for this same condition any other time since your discharge?

1 = YES
2 = NO → SKIP TO A-51D.

A-55C. Not counting the hospitalization we just talked about, how many other times have you been hospitalized for this same condition (since your discharge)?

ENTER NUMBER OF TIMES. (RANGE = 1-20.)

A-51D. Since your discharge, have you been hospitalized overnight or longer for any other health problem or condition besides the ones you've already told me about?

1 = YES
2 = NO → SKIP TO A-56.

HOSPITAL STAY 4

A-52D. In what year did you first go to the hospital for this other condition (after your discharge from active duty)?

ENTER THE LAST 2 DIGITS OF THE YEAR. (EDIT 2.)

A-53D. What was the main condition for which you entered the hospital?
What did the doctor say the problem was?

(PROBE: What part of the body was affected?)

(PROBE: What kind of (KEYWORD) was it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-54D. Were you hospitalized overnight or longer for this same condition
any other time since your discharge?

1 = YES

2 = NO → SKIP TO A-51E.

A-55D. Not counting the hospitalization we just talked about, how many
other times have you been hospitalized for this same condition
(since your discharge)?

ENTER NUMBER OF TIMES. (RANGE = 1-20.)

A-51E. Since your discharge, have you been hospitalized overnight or longer
for any other health problem or condition besides the ones you've
already told me about?

1 = YES

2 = NO → SKIP TO A-56.

HOSPITAL STAY 5

A-52E. In what year did you first go to the hospital for this other condition
(after your discharge from active duty)?

ENTER THE LAST 2 DIGITS OF THE YEAR.

(EDIT 2.)

A-53E. What was the main condition for which you entered the hospital?
What did the doctor say the problem was?

(PROBE: What part of the body was affected?)

(PROBE: What kind of (KEYWORD) was it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-54E. Were you hospitalized overnight or longer for this same condition any other time since your discharge?

1 = YES
2 = NO → SKIP TO A-51F.

A-55E. Not counting the hospitalization we just talked about, how many other times have you been hospitalized for this same condition (since your discharge)?

ENTER NUMBER OF TIMES. (RANGE = 1-20.)

A-51F. Since your discharge, have you been hospitalized overnight or longer for any other health problem or condition besides the ones you've already told me about?

1 = YES
2 = NO → SKIP TO A-56.

HOSPITAL STAY 6

A-52F. In what year did you first go to the hospital for this other condition (after your discharge from active duty)?

ENTER THE LAST 2 DIGITS OF THE YEAR. (EDIT 2.)

A-53F. What was the main condition for which you entered the hospital? What did the doctor say the problem was?

(PROBE: What part of the body was affected?)
(PROBE: What kind of (KEYWORD) was it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-54F. Were you hospitalized overnight or longer for this same condition any other time since your discharge?

1 = YES
2 = NO → SKIP TO A-56.

A-55F. Not counting the hospitalization we just talked about, how many other times have you been hospitalized for this same condition (since your discharge)?

ENTER NUMBER OF TIMES. (RANGE = 1-20.)

* A-56. Does any impairment or health problem keep you from working for pay either full or part time?

1 = YES → SKIP TO A-59.
2 = NO

A-57. Are you limited in the kind or amount of work you can do because of any impairment or health problem?

1 = YES → SKIP TO A-59.
2 = NO

A-58. Are you limited in any way in any activities because of an impairment or health problem?

1 = YES
2 = NO → SKIP TO A-60A.

A-59. What is the main condition that [keeps you from working/limits the kind or amount of work you can do/limits your activities]?

(PROBE: What part of the body is affected?)
(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

* A-60A. Do you currently have any health problem that we have not already talked about? Please do not include dental problems.

1 = YES
2 = NO → SKIP TO SECTION B.

PROBLEM 1

A-61A. What is this condition?

(PROBE: What part of the body is affected?)
(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-60B. Do you currently have any other health problem?

1 = YES
2 = NO → SKIP TO SECTION B.

PROBLEM 2

A-61B. What is this condition?

(PROBE: What part of the body is affected?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

A-60C. Do you have any other health problem?

1 = YES

2 = NO → SKIP TO SECTION B.

PROBLEM 3

A-61C. What is this condition?

(PROBE: What part of the body is affected?)

(PROBE: What kind of (KEYWORD) is it?)

ENTER THE CONDITION NAME (LIMIT OF 40 CHARACTERS).

SECTION B. MARITAL AND REPRODUCTIVE HISTORY

* B-01. Now I would like to ask about your marital status. Are you currently married, widowed, separated, divorced, or have you never been married?

- 1 = MARRIED
- 2 = WIDOWED
- 3 = SEPARATED
- 4 = DIVORCED
- 5 = NEVER MARRIED → SKIP TO B-03.

B-02. How many times have you been married?

ENTER NUMBER OF TIMES. (RANGE = 1-10.)

* B-03. Now I have some questions about the children, if any, that you have fathered. Please include all babies who were born alive, as well as any babies who may have been stillborn or who died shortly after birth or during childhood. Do not, however, count miscarriages, abortions, or any pregnancy that did not result in a liveborn or stillborn baby. Altogether, how many children have you fathered?

ENTER NUMBER. IF NONE, ENTER "88" AND SKIP TO B-17. (RANGE = 1-20.)

IF B-03 ≥ 1

B-04A01. (Let's begin with your first-born child.) Was your (first) child a boy or girl?

- 1 = BOY
- 2 = GIRL

B-04B01. In what month and year was [he/she] born?
ENTER MONTH (RANGE 1-12) AND LAST TWO DIGITS OF YEAR.

_____ MONTH _____ YEAR (EDIT :.)

B-04C01. Was [he/she] a live birth or a stillbirth?

- 1 = LIVEBIRTH
- 2 = STILLBIRTH → SKIP TO NEXT CHILD IF B-03 > 1. OTHERWISE GO TO B-05A. CATI SUPPLIES "STILLBORN", YEAR OF BIRTH" IN ROSTER.

B-04D01. What did you name [him/her]?

ENTER FIRST NAME. CATI SUPPLIES NAME IN ROSTER. (LIMIT OF 15 CHARACTERS.)
