

CHAPTER 3

QUESTIONNAIRE METHODOLOGY

This chapter discusses the development and the implementation of the questionnaires used in the study: the participant interval questionnaire, the spouse interval questionnaire, the Baseline participant and spouse questionnaires, and the telephone survey of previously uncontacted Comparisons.

The participant interval questionnaire was designed to capture the study participant's health history in the 3 years since his participation in the Baseline study. Data collection was comparable to the Baseline effort: The questionnaire was very similar, and it was administered using the same face-to-face methodology to virtually the same population. In the Baseline study, interviews were conducted in the participants' homes and the followup interview was conducted at the physical examination site. The revised methodology was more efficient and better subject to quality control.

The spouse interval questionnaire collected reproductive data similar to those collected at Baseline from spouses for the interval since Baseline. The spouse interval questionnaires were mailed to the spouses to be self-administered, or were completed in La Jolla, California, if the spouse accompanied the participant to the physical examination site. Analysis of the spouse data is not included in this report.

Since some study subjects refused to participate in 1982 and other participants were new to the study, Baseline questionnaires were administered to these new participants and their spouses. The same procedures used at Baseline were used to administer the Baseline questionnaires in the homes of these individuals.

The elements of each questionnaire are identified in Table B-1 of Appendix B. Questionnaire development and administration and scheduling of participants were conducted by the National Opinion Research Center (NORC), a social science research center at the University of Chicago.

QUESTIONNAIRE DEVELOPMENT

The goal of questionnaire development was to maintain to the maximum extent possible the question wordings, context, and procedures that were used in the 1982 Baseline study. The largest task of questionnaire development was asking for interval histories on crucial questionnaire items to update the information provided by the 1982 Baseline questionnaires. For the participant interval questionnaire, new questions were also developed on risk factors for skin cancer, since the Baseline Morbidity Report found Ranch Hands to have an excess of nonmelanoma skin cancer.¹⁻³ Because the chemical constituents of Herbicide Orange had not previously been associated with skin cancer in the literature, no questions had been included in the Baseline participant questionnaire to collect information on risk factors for this condition.

New questions were added to determine personality type, since Type A behavior is associated with coronary heart disease. The Jenkins Activity Scale was administered to collect these data. Enhancements were also made to improve data collection for birth defects, smoking habits, and drinking habits. A copy of the participant interval questionnaire is provided in Appendix B.

An information sheet containing a computer-generated summary of key respondent answers to the Baseline survey was used to provide bounded recall for participants. Even when given a precise "starting date," respondents frequently repeat information given earlier, neglect to report new information because they thought they had previously reported it, and otherwise misplace events in time or forget them completely. The best means of preventing such errors is through the use of bounded recall, in which the respondent is reminded of information he has already reported and new information is sought with reference to an updated information sheet. Among the data elements included were date of birth, highest educational degree, military status at last interview, marital status at last interview, and name of spouse.

The questionnaire was pretested on 8 ineligible individuals who had been interviewed during Baseline, and on 10 men who participated in the pretest examination.

INTERVIEWER TRAINING

Twelve interviewers were recruited and trained by NORC's field management and Chicago office staffs in May 1985 to administer the interval questionnaires. The onsite NORC interview staff was not informed of the exposure status of any study participant either before or after contract completion. The site supervisor reported to the Project Director in Chicago on a weekly basis, and quarterly visits were made to the site by the Director. The site supervisor observed a sample of interviews, at least one per interviewer per week, and reviewed and edited interview questionnaires before shipping them to Chicago for further processing.

In early 1985, personal interviewers were recruited to conduct Baseline interviews for new participants in their homes. The interviewers were trained in the Chicago NORC office, using questionnaires and procedures established for the Baseline survey. They were supervised by an assistant survey director in the NORC office, who edited each completed questionnaire and talked with each interviewer weekly.

TELEPHONE SURVEY

The telephone survey of uncontacted Comparisons was intended to gather data on the general health status of the 7,963 replacement candidates for the active Comparison group. The sample consisted of men who served in C-130 units in Southeast Asia between 1962 and 1971, but who did not participate actively in the Baseline phase of the study. A total of 7,411 cases (93%) was completed by NORC computer-assisted telephone interviewers. The telephone survey was conducted prior to the scheduling of the physical examinations.

The key question asked was, "Compared to other people your age, would you say that your health is...excellent, good, fair, poor?" Other questions asked about current medications, severity of illness or injury during the last 6 months, and income. Locating and refusal conversion algorithms similar to the Baseline data collection efforts were used.

The data from the telephone survey of uncontacted Comparisons were used to select a replacement whose self-reported health status matched that of the noncompliant Comparison. If a willing replacement was not found by this method, the perception of health status variable was dichotomized into excellent/good versus fair/poor, and a new replacement was selected from the Comparison set. If this second attempt at identifying a suitable replacement failed, no replacement was made. The selection procedure is provided in Figure 3-1. In this example, the first randomly ordered Comparison was contacted but refused to participate. In the second attempt, the Comparison was deceased. The third Comparison volunteered to participate in the morbidity study.

SCHEDULING OF PARTICIPANTS

NORC recruited and trained four schedulers to perform the initial contacts with study subjects. Their training included background information on the details and purpose of the study, simulation of the actual scheduling of calls, documentation of results, and conversion of refusals. An initial letter was sent by the Air Force to each study subject, informing him of the upcoming interval physical examination. The NORC scheduler then followed this letter with a call to attempt to schedule the participant.

Refusals occurred at a number of steps in the scheduling process. A team of conversion specialists was assigned to contact refusing study subjects and attempt conversions. Help in conversion was also received from individuals in the U.S. Air Force School of Aerospace Medicine and the Ranch Hand Association. Many more participants were scheduled, but due to "no-shows" at the examination site, and passive refusals who rescheduled frequently, the final figure stood at 2,309.

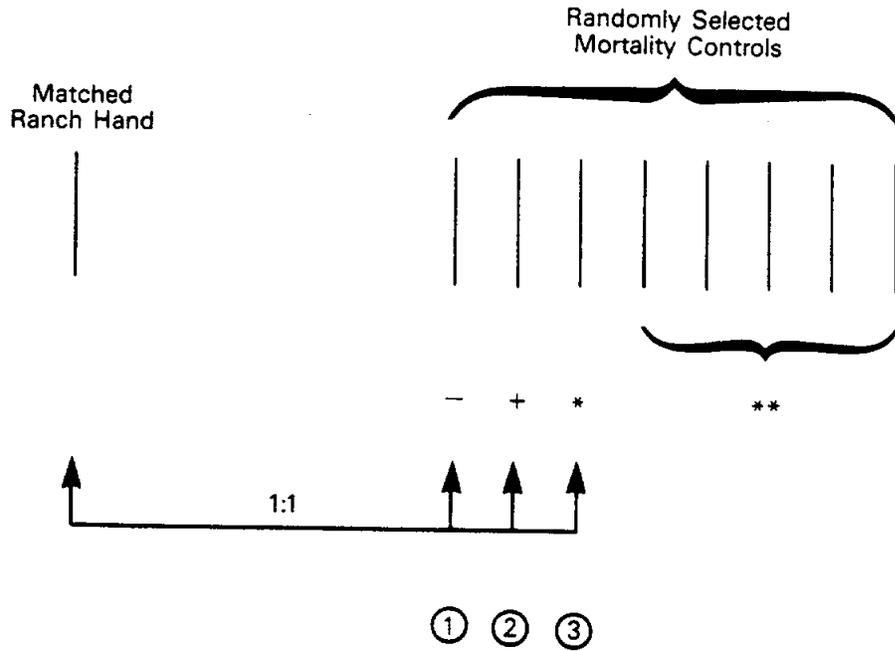
The Baseline interviewer contacted the potential study participant by telephone for scheduling the in-home interview. Toward the end of the physical examination phase, the Baseline questionnaire was administered at the examination site by one of the interviewers who had been trained in administering that questionnaire. Of the 106 participant Baseline questionnaires administered during the first followup, 21 had to be conducted at the examination site.

The supervisor of the Baseline interviewers conducted the locating efforts for new and interval participants. Procedures similar to those used in 1982 were followed: a postal search, followed by a local telephone directory search, a motor vehicle registration search, and personal locating efforts in the area of last known residence when appropriate. The Air Force also provided locating support through its records.

DATA COLLECTION

Upon arrival at the Scripps Clinic and Research Foundation (SCRF), the participant received a schedule including the time and place for the interval interview, and a race-matched interviewer was appointed to conduct the

Comparison Individuals (Randomly Ordered)



- Unwilling
- + Deceased
- * Volunteered
- ** Replacement Candidates

Figure 3-1.
Selection Procedure for the Questionnaire,
Physical Examination, and Followup Study

interview. Because of scheduling problems and the unavailability of a Black interviewer, 65 of the 143 Black study participants were interviewed by whites.

As in all of the personal interviews for the AFHS, interviewers were required to ask questions exactly as written, were not allowed to interpret questions or inject personal commentary, and were not allowed to skip between sections of the questionnaire. They were also instructed to probe "don't know" answers at least once. During the interview, medical record release forms were signed. The respondent was also asked to give the current name and address for each former spouse listed in the questionnaire, so that spouse questionnaires could be mailed to these individuals.

The spouse interval survey was mailed to current spouses at the time the study subject was at the SCRF. Two NORC Chicago telephone interviewers were trained to prompt refusing spouses to return the questionnaire, or to administer the spouse interview by telephone as part of the refusal conversion effort. If the spouse also traveled to La Jolla, the questionnaire was completed under the supervision of a site interviewer. Of the 1,898 completed spouse interval questionnaires, 1,066 were returned by mail, 348 were completed by telephone, and 484 were completed in La Jolla.

DATA PROCESSING

All completed interviews were sent to the NORC Chicago office following editing by the site supervisor, who retrieved missing data from study subjects while they were still onsite; any further retrieval of critical items was conducted from the Chicago office through telephone contacts. Critical items were those for which missing data were unacceptable.

The questionnaires were coded for data entry by a staff of five coders who received a week of training on the various AFHS instruments. Data entry was programmed to provide value and range checks as the data were being entered, to perform logic checks and arithmetic checks, to flag important missing items, and to verify the key entry of 10 percent of each questionnaire. Then the data were run through an automated cleaning program to detect a wide range of data errors that were corrected by pulling the hard copy questionnaires and reviewing each situation on a case-by-case basis. No changes were ever made in the hard copy data; corrections were entered into the data tape, and the tape was run against the cleaning program until no errors were detected.

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REFERENCES

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