

CHAPTER 3

QUESTIONNAIRE METHODOLOGY

This chapter describes the development and implementation of the two participant questionnaires used in the 1992 followup to the Air Force Health Study (AFHS): the 1992 Interval Questionnaire and the 1982 Baseline Questionnaire.

The 1992 participant Interval Questionnaire was designed to capture the participant's health history in the interval since participation in previous followups. Data collection was comparable to the Baseline and to the 1985 and 1987 followup efforts—the questionnaire was similar and administered using the same face-to-face methodology to almost the same population. In the 1982 Baseline study, interviews were conducted in the participants' homes; in 1985, 1987, and 1992 studies, the followup interviews were conducted at the physical examination site. The latter method was more efficient and subject to better quality control (QC).

Since some study subjects did not participate in the 1982, 1985, and 1987 studies, and other participants were new to the study, the same Baseline Questionnaire used during the Baseline examination was administered to these new participants. The National Opinion Research Center (NORC), a social science research center at the University of Chicago, developed and administered the questionnaire and scheduled participants.

QUESTIONNAIRE DEVELOPMENT

The goal of 1992 questionnaire development was to maintain, to the maximum extent possible, the question wordings, context, and procedures used in the 1982 Baseline study and the 1985 and 1987 followup studies, and to obtain data on new areas of inquiry added to the study for 1992. The central task of questionnaire development was to obtain interval histories on questionnaire items to update the information provided in previous followups (i.e., if the study subject participated in the 1987 followup, the 1992 Interval Questionnaire captured interval histories for the period 1987 to 1992. If the subject last participated in the Baseline study or the 1985 followup, the 1992 Interval Questionnaire captured interval histories from those dates until 1992).

The 1982 Baseline Questionnaire captured information on demographics, education, occupation, medical history, study compliance, toxic exposures, and reproductive history. In general, histories and one-time questions (where the response does not change over time) were obtained in the Baseline Questionnaire, which is completed for each participant the first time he participates in the study. For the 1985 followup, new questions on risk factors for skin cancer and personality type were added to the Interval Questionnaire. In addition, enhancements were made to the data collection procedures for birth defects and drinking habits, and questions were added to capture a more detailed smoking history.

In general, the 1987 Interval Questionnaire built on the changes made in the 1985 Interval Questionnaire, and was expanded to include a detailed drinking history and sleep

disorder questions. Since some of the study subjects did not participate in the 1985 followup, the 1987 Interval Questionnaire was structured to capture one-time questions added in 1985, such as ethnic background and smoking history, for “rejoining” participants (i.e., those who completed a previous questionnaire but did not participate in all cycles). All participants were asked questions to update their histories from previous interviews.

The 1992 Interval Questionnaire contained all of the questions in the 1987 Interval Questionnaire, and was further expanded to collect the following information:

- Whether the participant was ever occupationally exposed to heavy metals and vibrating power tools
- Family health history (with particular reference to diabetes, heart trouble, and heart disease)
- Whether the participant was ever diagnosed with diabetes and, if so, type, treatment received, and medications taken
- Whether the participant was ever vaccinated for Hepatitis B
- Intermittent claudication and vascular insufficiency
- The participant’s normal level of physical activity.

These new questions for the 1992 followup were grouped in a separate booklet titled “Interval Supplementary Recording Booklet.” In addition, participants completed a Diet Assessment Questionnaire developed by Walter Willett at Harvard University (1). The results of this questionnaire were used to evaluate participants’ diet patterns and caloric intake.

A copy of the 1992 Study Subject Health Interval Questionnaire, including the Interval Supplementary Recording Booklet and the Diet Assessment Questionnaire, is provided in Appendix B. The 1992 Interval Questionnaire is the latest in the series of longitudinal AFHS questionnaires.

A longitudinal questionnaire is dependent on the respondent’s ability to remember events and to place those events in time. 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 that he has already reported and asked to provide new information. Information sheets containing computer-generated summaries of key respondent answers given in previous interviews (either in the Baseline, or 1985 or 1987 followups) were used to provide bounded recall for participants. Among the data elements included were: date of birth, highest educational degree, military status at the last interview, marital status at the last interview, name of spouse or partner at the last interview, and a cumulative list of all children reported during previous interviews. To

ensure that the questionnaire provided accurate results, 10 men participated in a pretest examination, which had successful results.

INTERVIEWER TRAINING

In April 1992, NORC's field management and the Chicago office staff recruited and trained 11 interviewers to administer the Interval Questionnaires. Four of the interviewers had administered Interval Questionnaires previously in the 1987 followup. The onsite NORC staff were not informed of the exposure status of any study participant either before or after questionnaire completion. The site supervisor reported to the NORC Project Manager in Chicago at least once a week, and the Project Manager made quarterly visits to the site. The site supervisor observed at least one interview per interviewer each quarter, and either the supervisor or NORC's site editor reviewed and edited all questionnaires for completeness.

Three of the site interviewers were trained by the site supervisor to administer the Baseline Questionnaire to new participants. Two of those interviewers had administered the Baseline Questionnaire previously during the 1987 followup. Completed Baseline Questionnaires also were reviewed and edited for completeness by the site supervisor or site editor.

DATA COLLECTION

Upon arrival at the Scripps Clinic and Research Foundation (SCRF), the participant received a schedule including the time and place for the 1992 Interval interview (and, if appropriate, the Baseline interview), and an interviewer was assigned. In all of the personal interviews conducted 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, participants signed medical record release forms; if a participant did not have all of the information with him to complete the form during the interview, or if the medical records pertained to his now-adult children and required their signature, he was given blank forms and instructions to take home with him for return to the Air Force when completed.

CHAPTER 3 REFERENCES

1. Willett, W.C., R.D. Reynolds, S. Cottrell-Hoehner, L. Sampson, and M.L. Brown. 1987. Validation of a semi-quantitative food frequency questionnaire: Comparison with a one-year diet record. *Journal of the American Dietetic Association* 87(1): 43-47.