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The Supplement on Aging to the 1984 National Health Interview Survey

Programs and Collection Procedures
Series 1, No. 21

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VITAL HEALTH STATISTICS

The Supplement on Aging to the 1984 National Health Interview Survey

Includes descriptions of the sample, questionnaire content, and survey operations, and presents strategies and procedures for analysis of the Supplement on Aging to the 1984 National Health Interview Survey.

Programs and Collection Procedures
Series 1, No. 21

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Cooperation of the U.S. Bureau of the Census

Under the legislation establishing the National Health Interview Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the Division of Health Interview Statistics, the U.S. Bureau of the Census, under contractual agreement, participated in planning the survey and collecting the data.

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Symbols

- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standard of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

The Supplement on Aging to the 1984 National Health Interview Survey

by Joseph E. Fitti, MSPH, Division of Health Interview Statistics, and Mary Grace Kovar, Dr.P.H., Vital and Health Statistics Systems

Introduction

Overview of the National Health Interview Survey

The National Health Survey Act of 1956 provided for a continuing survey to secure, on a voluntary basis, accurate and current statistics on the amount, distribution, and effects of illness and disability in the United States and the services rendered because of such conditions. Mandated by this legislation, the National Health Interview Survey (NHIS) is a principal source of information on the health of the civilian noninstitutionalized population of the United States.

The purpose of the survey is to provide national data on the incidence of illness and accidental injuries, the prevalence of chronic conditions and impairments, the extent of disability, the utilization of health care services, and on other health related topics. A major strength of the survey is that these statistics can be obtained for the U.S. civilian noninstitutionalized population. Because NHIS data are obtained during household interviews from the people themselves, the statistics are a measure of health status and experiences and a reflection of the social and economic dimensions of health issues as reported by individuals, that is, the extent and impact of illness and disability and the resulting uses of health care services are reported by the people experiencing them.

Interviews are conducted each week throughout the year in a probability sample of households. The interviewing is performed by a permanent staff of highly trained and supervised interviewers of the U.S. Bureau of the Census under detailed specifications provided by the Division of Health Interview Statistics, National Center for Health Statistics (NCHS). U.S. Bureau of the Census interviewers trained on the NHIS, some of whom have worked on this survey for over 10 years, generally work only on this survey and remain as its field staff for their full careers as Census interviewers.

The questionnaire used in the interview is divided into two basic units, a basic questionnaire that is constant over long periods and special topic questions, or a supplement, that differ from year to year (appendixes I and II, respectively).

The basic questionnaire contains items on

- Basic demographic characteristics of household members, including age, sex, race, Hispanic origin, education, marital status, veteran status, employment or major activity status, and income.
- Disability days, including restricted activity and bed days, and work or school loss days occurring during the 2-week period prior to the interview.
- Doctor visits during the past year and during the 2 weeks prior to the interview.
- Acute and chronic conditions responsible for disability days and doctor visits.
- Long-term limitation of activity resulting from chronic disease or impairment and chronic conditions associated with disability.
- Short-stay hospitalization, including number of persons with hospital episodes during the past year and number of discharges from short-stay hospitals.
- Interval since the last doctor visit.

Supplements are changed in response to current interest in special health topics. Suggestions and requests for special topic coverage are solicited and received from many sources. These include the Public Health Service and other agencies of the Department of Health and Human Services, other Federal agencies, university-based researchers, administrators of national organizations and programs in private and public health sectors, and other specialists in the field of interest. In addition, NCHS staff are aware of data needs and issues of public health importance for consideration as special topics to be included in the NHIS.

Facsimilies of the first pretest questionnaire, reinterview questions, definitions of the SOA terms, information about survey design and estimation, examples for the Statistical Analysis System's (SAS) processing of data, and the consultants and staff of the SOA appear in appendixes III–VIII.

The sample design of the NHIS, which is discussed in more detail in the section Sample description, provides unique analytic opportunities. The sample is designed so that each week's data collection constitutes a sample of the civilian noninstitutionalized population of the United States. The weekly samples can be aggregated to increase the sample size, or they can be used to study trends or seasonal variation.

Data collected over the period of a year form the basis for annual estimates of the health characteristics of the population. These annual estimates are the bases for most NHIS reports, such as "Current Estimates," which is published annually in *Vital and Health Statistics.*

Data collected over a longer period can also be aggregated

and appropriately weighted to form the basis for average annual estimates. These estimates are the basis for many analyses of low-frequency characteristics, such as the prevalence of some chronic conditions or special characteristics of contacts with physicians.

Conversely, data from any quarter can be analyzed to study short-lived high-frequency phenomena, such as major flu epidemics, or to study seasonal variation. If the techniques are combined, seasonal variation over the course of many years can be studied.

Throughout the NHIS data collection and data processing, extensive quality control procedures are followed to reduce nonsampling errors in the data produced from both the basic questionnaire and the special topic questions. (For details, see reference 1.)

Data release occurs in many forms including publications, tabulations, and public-use data tapes.

Data are published by the Center in Series 10 of *Vital and Health Statistics,* in *Advance Data,* and in *Health United States.* Information about how to order publications can be obtained by writing or calling the Scientific and Technical Information Branch of NCHS. Data are also released in *Statistical Abstracts of the United States* and many other Federal Government publications. The U.S. Government Printing Office sells the NCHS and other Federal agency publications.

Public-use data tapes containing basic questionnaire data are released by NCHS through the National Technical Information Service (NTIS) in Springfield, Va.[a] The public-use tapes, which contain all the information on the basic NHIS questionnaire, are usually released to the research community within 2 years of the completion of the calendar year of the data collection. That is, all data collected on the basic questionnaire in 1984 are available to anyone who wishes to purchase the data tapes through NTIS.

Public-use data tapes containing supplement topic data, including the 1984 SOA, are available directly from the Division of Health Interview Statistics, National Center for Health Statistics, by writing to

Division of Health Interview Statistics
National Center for Health Statistics
Center Building, Room 2–44
3700 East-West Highway
Hyattsville, Maryland 20782.

The release of the public-use tapes means that many analyses are published by people or organizations that are not connected with NCHS. Although the NCHS staff are interested in who uses the data and often work with independent analysts if asked, the responsibility for using the tapes correctly rests with the users. This monograph is designed to describe the design and implementation of the 1984 Supplement on Aging and to assist users of the data from it.

[a] National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161
Tel: (703) 487–4650

Overview of The 1984 Supplement on Aging

Increasing interest in aging led to the entire 1984 supplement's being devoted to a population group rather than to a single health topic. A precedent had been set for dedicating an NHIS supplement to a specific population group in 1981 when a comprehensive supplement on children was conducted as part of the survey. In the Child Health Supplement, data were gathered on a national probability sample of 15,416 children 17 years of age and under, and information was provided on a variety of specific issues related to that population.

Concerns among a number of public health agencies and individuals about the increasing proportion of older people in the U.S. population led, as early as 1980, to recommendations that the NHIS address this special subgroup. Issues dealing with the health and functional status of older people and the need for alternatives to institutionalization as the mode for providing care were identified at this early point by professionals in the field of aging.[2–6] Information about these and related characteristics of the older population was needed.

Statements of the need for this information were made by the Department of Health and Human Services in the 1980 National Long-Term Care Data Plan of the Division of Long-Term Care Policy, Office of the Assistant Secretary for Planning and Evaluation;[7] by the Office of Management and Budget in its 1980 report of the Interagency Statistical Committee on Long-Term Care of the Elderly;[8] and by the 1981 White House Conference on Aging, Final Report, Vol. III, Recommendation No. 627.[9,10]

It was postulated that information about the health conditions that were most prevalent, about living arrangements, family and social support availability, retirement income and financial obligations, functional status and limitations, and attitudes and opinions about their own health and abilities would help in assessing the future needs of the elderly.[11,12]

In addition to responding to the topic recommendation of the National Health Interview Survey's Technical Consultants Panel that these informational needs about the elderly could be addressed through the NHIS, a special supplement on aging in 1984 was particularly timely because NCHS planned to conduct the National Nursing Home Survey (NNHS) in 1984. The SOA data on the noninstitutionalized population would complement the NNHS data on residents of nursing homes and would provide, for the first time, comprehensive data on almost the total elderly population.

The development of a supplement to help provide some of this information from a national survey of elderly people themselves began in 1982 and resulted in the 1984 NHIS Supplement on Aging that is described in this report. The objectives of the 1984 SOA were:

- To characterize the health and social status of people aged 55 and over in the United States.
- To provide information about how psychosocial and environmental factors interact with health factors to influence the aging individual in a changing society.
- To provide a knowledge base for investigating issues of prevention and postponement of disability and dependency

and for framing research questions and hypotheses on the interplay between changing home environments and the aging individual.

- To delineate issues and data for research on the enhancement of care, social support, and coping for those older people who do become disabled.
- To provide information about factors that influence individuals' ability to live independently in the household and the community as they grow older.
- To form the basis for a prospective study, the Longitudinal Study of Aging (LSOA). (See chapter 7 of this report for description of the LSOA.)

In 1984 the supplement to the NHIS was the Supplement on Aging. NCHS selected this as the supplemental topic; no outside funds were sought or received. However, special supplement suggestions that had been received from outside agencies through the topic solicitation process were incorporated, and there was extensive consultation with staff of other agencies. Consequently, the needs of other organizations in the Federal Government were met as much as possible.

Chapter 1
Sample description

National Health Interview Survey

The National Health Interview Survey (NHIS) sample is designed to produce national estimates for the civilian noninstitutionalized population residing in the United States. The approach to doing so is first to divide the United States into geographically defined areas called primary sampling units (PSU's), which collectively cover the 50 States and the District of Columbia. The PSU's are classified into strata (combinations of PSU's with similar characteristics), and, in 1984 and earlier years, one PSU was selected from each stratum. Within the selected PSU's, small compact clusters of housing units are then selected. Details of the sample design, listing segments, and selecting housing units in the NHIS sampling procedure are provided in Series 1 of *Vital and Health Statistics.*[1,13]

There is clustering within the PSU, within the segment, and within the household because all family members in the selected housing unit are in the sample. This clustering causes the procedures for analysis, especially the variance estimation, to differ from those in simple random sampling.

An important aspect of the NHIS sample design is that it is a multistage probability design that permits a continuous sampling of the civilian noninstitutionalized population in the United States. It is designed in such a way that the sample scheduled for each week is an independent sample of the population; the weekly samples are additive over time. Thus, the design permits estimates for high-frequency measures (or for large population groups) to be produced from a short period of data collection and estimates for low-frequency measures (or for smaller population subgroups) to be obtained from a longer period of data collection. Because interviewing is done throughout the year with about 800 households in the sample each week, there is no seasonal bias in the annual estimates.

The NHIS sample is updated or redesigned after each decennial census. The redesign that was implemented in 1973 was an update and modification of earlier sample designs rather than an entirely new design. This update formed the basis for the 1984 NHIS sample. Details of the design and the updated sample have been published.[1,13]

In 1984, 41,471 eligible households were in the NHIS sample. Interviews were conducted in 39,996 (96.4 percent) of these households, yielding data on 105,290 persons of all ages who resided in them at the time of the interview.[14]

Supplement on Aging

One of the objectives of the Supplement on Aging (SOA) was to provide finer statistical measures of functional limitations and the presence of chronic health conditions among older persons than is provided in the NHIS basic questionnaire. (See appendix I.) To produce a broader base for estimating these and other critical characteristics of this subpopulation, a sample design was developed that permitted collecting the maximum amount of information about older people, among whom the occurrence of these health "problems" is greatest, namely, people 65 years and over.

Another objective of the SOA was to provide information about older people that could be used as baseline data in measurements of change over time through a later prospective study. This longitudinal study was conceived as an assessment of change over time both among those older and most likely to have problems and also among those less likely to have problems in 1984 but who would move into the critical ages within 10 years. With this objective of later contact to ascertain changes, the age level established for the SOA sample was 55 years and over. This age level was also determined as appropriate for the SOA because of the need for information about age differentials in the ability of the elderly to work and about the impact on the work force of early retirement among those under 60 years of age; ages 55 years and over provided an appropriate age cutoff.

Because there are a large number of people in the age group 55–64 years in contrast to the older ages, selecting all of them would have yielded more precision than needed to make comparisons with the older group. Further, the SOA entailed a long interview and, because there were more likely to be multiple persons in households with younger age people, extremely long interviews would have resulted because each eligible person was interviewed for himself or herself. Because problems among younger people are less prevalent than among older ones and for the cost savings it provided, it was decided further that including all people in the younger ages in the sample was not necessary.

Consequently, the design of the SOA sample was:

- A systematic one-half sample of people in the 1984 NHIS households who were ages 55–64 years.
- All people in the 1984 NHIS households who were ages 65 years and over.

The selection of sample persons was accomplished by using the listing form on the front of the SOA questionnaire (figure 1). The procedure for selecting the one-half sample of people ages 55–64 years was simply listing by age, from oldest to youngest, persons 55–64 years and selecting those listed on every other line of the listing form.

SUPPLEMENT ON AGING SAMPLE SELECTION

Use Table A or B as indicated on HIS-1 Household Composition Page. Circle that letter and enter number below to indicate the order of interview (1 = down from the top of the listing, 2 = up from the bottom). Follow this order whenever two or more sample persons are at home at the same time. | RT 64 | 3–4

18. Are there any nondeleted persons 65 years old or older in the family? | 5

1 ☐ Yes *(List by age (oldest to youngest) in upper portion of appropriate table, mark "SP" box on HIS-1 for each, THEN 19)*

2 ☐ No *(19)*

19. Are there any nondeleted persons 55–64 years old in the family? | 6

1 ☐ Yes *(List by age (oldest to youngest) in lower portion of appropriate table, mark "SP" box on HIS-1 for each "X" person, and begin supplement using the appropriate "order of interview")*

2 ☐ No *(Begin interview(s) using the appropriate "order of interview")*

TABLE A _____				TABLE B _____			
Age	Name	Person number	Sample person	Age	Name	Person number	Sample person
7–8		9–10	X	39–40		41–42	X
11–12		13–14	X	43–44		45–46	X
15–16		17–18	X	47–48		49–50	X
19–20		21–22	X	51–52		53–54	X
23–24		25–26	X	55–56		57–58	
27–28		29–30		59–60		61–62	X
31–32		33–34	X	63–64		65–66	
35–36		37–38		67–68		69–70	X

Figure 1. SOA sample selection tables A and B

The listing forms were printed on the cover of the SOA questionnaire (appendix II), and they provided for selection starting with the first line on one-half of the forms and with the second line on the other half. People ages 55–64 years were listed on the form even though they had been included in the NHIS basic household listing procedure. This relisting of NHIS basic information was necessary to produce the eligible persons listed in the order of oldest to youngest for the SOA selection and to permit the SOA record to include all the eligible household members.

Interviewers were given questionnaires with the two selection versions alternated to ensure equal use of both versions. Additionally, interviewers were instructed to try to alternate between the two sample selection versions if the order of supplies was disturbed or if no persons ages 55 years and over lived in the household.

In addition, to further assure randomization in the selection procedure and to aid in overcoming position bias in households with more than one selected sample person, the order in which the interviewer asked to interview a selected sample person was controlled to alternate between top-down and bottom-up sequences.

A similar procedure of listing all people ages 65 years and over was followed. However, all of these listed people were selected for interview.

In some households the sampling procedures resulted in more than one person being selected for the SOA interview.

The sample design produced a statistically valid sample of persons ages 55 years and over living in the NHIS households who were interviewed in 1984. It permitted adjustment for probability of selection and application of NHIS weighting procedures to yield national estimates as well as estimates for the four geographic regions defined by the U.S. Bureau of the Census and for some large metropolitan areas.

Table A. Number of persons for whom interviews for the Supplement on Aging were obtained, by age and sex

Age and sex	*Number*
Total	16,148
Age	
55–64 years	4,651
65–74 years	7,093
75–84 years	3,578
85 years and over	826
Sex	
Male	6,793
Female	9,355

The number of persons for whom SOA interviews were obtained is shown by age and sex in table A.

Because the NHIS is based on a sample with approximately equal probability of selection, the SOA sample design produced, in effect, a distribution for people ages 65 years and over in the sample that is about the same as that in the civilian noninstitutionalized population.

Chapter 2
Questionnaire planning and development

Planning and development of the SOA questionnaire

Planning and development of the Supplement on Aging (SOA) questionnaire began in February 1982. The first step was to determine the topics to be included.

Topic suggestions were received from a variety of sources, both inside and outside the National Center for Health Statistics (NCHS). Suggestions from outside NCHS came in response to the topic solicitation from the Division of Health Interview Statistics and from notifications to interested agencies and persons about plans to develop a supplement on aging. Suggestions from outside NCHS came from sources such as the National Institute on Aging, the Administration on Aging, the U.S. Senate Select Committee on Aging, the U.S. House of Representatives Special Committee on Aging, the Social Security Administration, voluntary and nonprofit organizations, and experts in the field of aging.

Decisions about topics to include required consideration of two major factors: the feasibility of obtaining the data in the NHIS interview and the comparability with data to be collected in other Center surveys in which information was gathered on the elderly population. In the latter context, it was necessary for the SOA to include information about the noninstitutionalized population that would be similar to that gathered in the National Nursing Home Survey on the institutionalized older population, so that by combining the data from the two surveys estimates for the total older population would be possible.

Another important consideration, which helped focus the content of the SOA, was the objective of providing information that would be useful in determining alternatives to institutionalization when the elderly become impaired. Though cross-sectional in character, the SOA information about personal and community resources available to the elderly, about functional and health status, and about use of care services would be pertinent to this objective.

However, to assess the relationship between these aspects of the lives of elderly people and any later need for institutionalization or other care would require additional data on change in status and use of resources to continue independent living. Consequently, it was necessary for the cross-sectional SOA to be conceived as also being the baseline data source for later longitudinal information to study the relationship between changes in functional status and living arrangements and the path from independent living through dysfunction and institutionalization to death.

These concepts and objectives provided the guidelines and determined the SOA topic coverage.

Activities to develop the concepts and to conduct the background research on existing surveys and questions dealing with the topics suggested for the SOA began in February 1982, following the review of topic suggestions.

The evaluation of the suggestions and the development of the first version of the questionnaire involved literature reviews, reviews of previous or existing surveys, extensive consultation with both agencies and individuals knowledgeable in the suggested topic areas (appendix VIII), and participation in both privately and federally sponsored conferences and meetings on issues of the aging.

An NCHS Work Group on Surveys of the Aging (appendix VIII), which addressed issues and developed recommendations for coordination among the National Nursing Home Survey, the National Mortality Followback Survey, and the NHIS Supplement on Aging, provided additional input in evaluating the topics to be included in the SOA and in guiding the development of the SOA questionnaire.

The result of the research and investigation of 22 suggested topics was the recommendation, made in October 1982, to include the following seven areas:

- Family structure, relationships, support and living arrangements.[15–17]
- Community and social support.[15,16,18,19]
- Occupation and retirement.[20,21]
- Conditions and impairments.[4,22–27]
- Structural characteristics of housing, activities of daily living (ADL's), instrumental activities of daily living (IADL's) and special aids.[28,29]
- Regular medical care and nursing home stay.[4,28,29]
- Health opinions and behavior, including the Center for Epidemiology Studies—Depression (CES–D) scale as a measurement of mental health status, alteration or disturbance of mood, indication of gross memory loss, and locus of control.[15,29–32]

Because the information sought about each person would usually be reported most reliably by the sample persons themselves, the respondent rule established was self-response except in cases where sample persons were physically or mentally unable to respond. In these cases, an adult, preferably living in the household, would be accepted as proxy.

A questionnaire covering the seven topics (appendix III) was designed; and it, along with the plan for the first pretest,

was submitted to the Office of Management and Budget (OMB) for clearance. The relationship with other surveys was one consideration in the design. Wherever reasonable, the items used in the questionnaire were drawn from questionnaires of other surveys that had already been tested or from surveys that had already been conducted.

Questions from the following surveys were used in designing the first pretest document:

- National Center for Health Statistics surveys
  - The National Health Interview Survey, basic questionnaire and previous supplements.
  - The 1976–1980 Second National Health and Nutrition Examination Survey, OMB 68–R1502.
  - The 1977 National Nursing Home Survey—Resident Questionnaire, OMB 68–S75025.
  - The 1979 National Survey of Personal Health Practices and Consequences, OMB 68–R1663.
  - The 1983 NHANES Epidemiologic Followup Study, OMB 0925–0161.
  - The 1982–84 National Hispanic Health and Nutrition Examination Survey, OMB 0937–0078.
  - The 1985 National Nursing Home Survey, OMB 0937–0114.
- Other surveys
  - The 1972 Survey of Work Experience, National Longitudinal Survey, OMB 1205–0044, U.S. Bureau of the Census, Department of Commerce.
  - The 1974 Supplemental Income Survey, OMB 72–S73009, Social Security Administration, Department of Health, Education, and Welfare (DHEW).
  - The 1974 Survey of Low Income, Aged and Disabled, OMB 72–S74005, Social Security Administration, DHEW.
  - The 1975 Survey of Institutionalized Persons—Family Questionnaire, OMB 41–S75070, DHEW.
  - The 1976 National Survey of the Aged, conducted by the University of Chicago.[33]
  - The 1978 Annual Housing Survey, Longitudinal Survey of Housing Adjustments of Older People, OMB 63–R1656, Department of Housing and Urban Development (DHUD).
  - The 1978 Survey of American Family Life, OMB 68–S75078, National Institutes of Health, Department of Health and Human Services (DHHS).
  - The 1978 Survey of Disability and Work, OMB 72–S77007, Social Security Administration, DHHS.
  - The 1979 Retirement History Survey, OMB 72–S70411, Social Security Administration, DHHS.
  - The 1982 Long-term Care Survey, OMB 0990–0021, Health Care Financing Agency, DHHS.
  - The 1982 Survey of Work Experience—National Longitudinal Survey, OMB 1205–0044, U.S. Bureau of the Census, Department of Commerce.

Pretests

The National Health Interview Survey (NHIS) pretest samples are prepared by the U.S. Bureau of the Census especially for each pretest. Pretest samples are drawn from the NHIS sample, which is made large enough to allow such pretests.[1] When possible, the pretest samples are drawn from communities that are easily accessible to Washington, D.C., and have census tracts with population characteristics that are most likely to provide enough respondents to test the questions and procedures designed for the specific survey. The SOA pretest samples were drawn from census tract listings in communities and from tracts within those communities with a high prevalence or proportion of residents ages 55 and over.

Two pretests were conducted in the development of the Supplement on Aging. OMB approval of the survey was requested in two submissions, the first covering the first pretest only and the second covering the second pretest and the full 1984 NHIS. This procedure was used because of the exploratory nature of the first pretest with a preliminary questionnaire that required the experience of actual interviewing to assess and determine modifications.

Bradenton, Fla., was the site of the first pretest conducted June 6–10, 1983. It was selected because it is a popular location for retirement, and it has a high proportion of residents who are 55 years of age or over.

Eighteen specially selected, experienced NHIS interviewers and 22 observers from the National Center for Health Statistics and the Bureau of the Census participated in this pretest. Pretest materials that were prepared included questionnaires (appendix III), interviewer manual, training guide, observation form and instructions, interviewer debriefing form and instructions, and administrative reports and forms.

Classroom training, conducted by the U.S. Bureau of the Census' Field Division trainer, was held on the first day, followed by 3 days of observed interviewing and a one-half day debriefing session.

Advance letters were mailed to households in the selected pretest sample segments. Each household was then visited by an interviewer; interviews, however, were conducted only in households in which there was at least one person 55 years or over. The full NHIS basic questionnaire and the First Pretest Supplement on Aging questionnaire were administered in all interviewed households.

The pretest respondents answered the questions according to the rule planned for the survey, that is, responding for themselves unless physically or mentally incapable of doing so. If more than one person 55 years or over lived in the household, all those of eligible ages were interviewed.

Interviews in the Bradenton Pretest were obtained from 256 sample persons in 181 households. Approximately 20 percent of the test households had more than one sample person. Forty-three percent of the interviews were conducted with male respondents and 57 percent with female respondents. Ninety-two percent of the interviews were with people 65 years or over. Noninterviews in the first pretest were negligible.

Generally, respondents were very cooperative, mentally alert, and in relatively good health.

The length of time for the interview (table B) was greater than anticipated and was the most serious problem revealed by the first pretest. From the interviewer debriefings, observer debriefings, and tabulations and reviews of the completed pretest

Table B. Length of interview of the National Health Interview Survey (NHIS) and of the Supplement on Aging (SOA): Bradenton Pretest

Item	*Total interview*	*NHIS basic interview*	*SOA interview*
Number of SOA persons in household	Minutes per household		
One	81.0	24.6	56.4
Two	123.0	28.5	94.5
First person	...	...	52.2
Second person	...	...	42.3

questionnaires, it was discovered that three interrelated problems dominated the first pretest and contributed to the long interviews—questionnaire length, perceived repetition of questions, and multiple sample persons per household.

A principal reason for the long interviews was the seeming repetition of nearly similar questions in several topic areas such as in the Family Structure and Living Arrangements and Community and Social Support sections, and the Activities of Daily Living (ADL), the Instrumental Activities of Daily Living (IADL), and the Occupation/Retirement sections. Additionally, some environmental items were asked unnecessarily of all sample persons in a household with more than one eligible person and were repetitious.

The Bradenton Pretest produced valuable information needed to make revisions in both content and procedures that would reduce the length of the SOA interview and still allow all persons in households with more than one eligible person to be interviewed.

The major revisions to the first pretest document included:

- Changing detailed questions about living family members to ask about children and siblings only.
- Reducing the number of kinds of help received as support to ask about financial support only.
- Reducing the inquiry about awareness, knowledge of sponsorship, and long-term and short-term usage of community services to recent, short-term usage only.
- Reducing the number of questions about social activities in which the sample person participates.
- Eliminating the detailed information about the health condition, if any, for which retirement benefits are received.
- Eliminating obtaining the health condition that causes difficulty performing 10 job-related tasks and measuring existence of difficulty only.
- Deleting questions about use of specific prostheses and other physical function aids.
- Reducing the detailed items about use of medical care services to asking about doctor visits only.
- Deleting the CES–D scale. In Bradenton, it was discovered that the list of items worked well if there was only one person present. If another household member was present, there was too much interaction between them to obtain valid information.
- Eliminating items that repeated NHIS basic questionnaire items.

The questionnaire was revised extensively on the basis of the Bradenton experience, and OMB clearance for the second pretest and the main study was granted.

The second pretest, using the shortened SOA questionnaire, was conducted in Wilmington, Del., September 22–26, 1983.

Approximately the same number of interviewers and observers attended the Wilmington pretest. Training, interviewing, observation, and debriefing procedures were identical to the first pretest. Materials for training and observation were rewritten for the second pretest questionnaire and procedures.

During the second pretest, a total of 234 NHIS basic questionnaires and SOA questionnaires were completed. These included the following numbers of the two questionnaires, obtained by the mode of interviewing indicated:

Number	*Interview method*
161	Both NHIS basic and SOA questionnaires collected by observed personal interviewing.
11	NHIS basic questionnaires collected by observed personal interviewing and SOA questionnaires collected by telephone interviewing.
62	NHIS basic questionnaires only collected by observed personal interviewing obtained in households with no persons 55 years or older.

Telephone interviewing was used for a small portion of the test to determine the feasibility of conducting callbacks by this interview mode.

Though the pretest sample population in Wilmington was generally a more diverse and younger group, they were equally cooperative.

The Wilmington pretest revealed that the interview was still long, averaging 40 minutes for the SOA. However, problems of redundancy of questions and multiple sample persons per household were resolved with the second pretest formatting and question revisions.

Following the second pretest debriefings and questionnaire reviews, further modifications were made to the content of the questionnaire to reduce the length. The procedure for rotation of the order of interview for conducting the SOA in households with more than one sample person was developed to help reduce the apparent bias of fewer reported conditions and the preponderance of women respondents in the second interview in these households.

The NCHS SOA Work Group (appendix VIII) reviewed the Wilmington pretest results and the suggestions for modifications. The work group, made up of members from all survey programs in the Center, assisted in making decisions about question rewording and deletions to achieve the desired 25-minute interview for the final version of the SOA.

The major revisions in the coverage made as a result of the two pretests were:

- The procedure to ask the items about family structure, relationship, and support only once in those households with both a husband and wife in the SOA sample.

- The reduction in the number of items about the structural characteristics of the residence.
- The simpler version of items about community and social support that eliminated specific awareness and knowledge questions and addressed only usage of community services.
- The refinement of information obtained about sources of retirement income and deletion of questions about the longest held job.
- The reformatting of ADL's and IADL's to make it easier for the interviewer to administer and for the respondent to answer while still obtaining information about the main condition causing difficulty performing the activity.
- The reduction of the number of items about receipt of health care to eliminate duplication of basic NHIS questions about doctor visits and to allow interviewers to concentrate on information about recent nursing home stays.
- The deletion of the CES–D scale.

Description of the SOA Questionnaire

The final SOA Questionnaire, resulting from the two pretests and revisions based on these experiences, contains the following topic sections (appendix II):

- Section N, Family Structure, Relationships, Support, and Living Arrangements.
- Section O, Community and Social Support.
- Section P, Occupation and Retirement.
- Section Q, Conditions and Impairments.
- Section R1, Activities of Daily Living (ADL's).
- Section R2, Instrumental Activities of Daily Living (IADL's).
- Section S, Nursing Home Stay, Help with Care, and Hospice.
- Section T, Health Opinions.
- Section U, Condition Pages.

The final questionnaire contains questions that are comparable to questions on similar topics in other surveys. The following listing gives references to the SOA sections and items and to the comparable survey:

SOA section and item number(s)	*Comparable study*
N Family Structure, Relationships, Support, and Living Arrangements	
4a–d—Frequency of contact with children	1976 National Survey of the Aged[33] 1985 National Nursing Home Survey 1971–75 National Health and Nutrition Examination Study (NHANES) 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
14a–h—Rental, mortgage, value of housing	1978 Annual Housing Survey 1985 National Nursing Home Survey Survey of Income Program Participants (SIPP)
O Community and Social Support	
4a–f—Social interaction	1976 National Survey of the Aged[33] 1986 NHANES Epidemiologic Followup Study
P Occupation and Retirement	
3a–b, 4, 5—Income excluding disability income	1982 Survey of Work Experience 1971–75 NHANES 1982–84 NHANES Epidemiologic Initial Followup Study
10a–j, 11, 12—Ability to perform work tasks	1985 National Nursing Home Survey 1982 Survey of Work Experience 1971–75 NHANES 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
Q Conditions and Impairments	
1a–f, 6a–c, 7a, b, 8—Visual impairment	1977 NHIS, Vision Supplement 1985 National Nursing Home Survey 1971–75 NHANES 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
9a–c, 10a–c, 11—Hearing impairment	1977 NHIS, Hearing Supplement 1985 National Nursing Home Survey
12a–m, 13a–e—Selected health conditions	1984 NHIS condition lists 1985 National Nursing Home Survey 1971–75 NHANES

SOA section and item number(s)—Con.	*Comparable study*—Con.
	1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
16a–e—NDI matching	National Death Index User File Format[34]
R1 Activities of Daily Living (ADL's)	1985 National Nursing Home Survey 1971–75 NHANES 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
R2 Instrumental Activities of Daily Living (IADL's)	1971–75 NHANES 1982–84 NHANES Epidemiologic Followup Study 1986 NHANES Epidemiologic Followup Study
S Nursing Home Stays, Help with Care, and Hospice	
1a–f—Nursing Home Stays	1985 National Nursing Home Survey 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
2a–b—Care if Needed	1985 National Nursing Home Survey
T Health Opinions 4a–b, 5a–b, 7, 8, 9	1979 National Study of Personal Health Practices and Consequences 1971–75 NHANES 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study
U Condition Pages	1984 NHIS 1971–75 NHANES 1982–84 NHANES Epidemiologic Initial Followup Study 1986 NHANES Epidemiologic Followup Study

To produce the final version of the SOA Questionnaire (appendix II)—one that could be administered in a 25-minute coherent, manageable interview that includes all eligible sample persons in a household and obtains information on a variety of topics pertinent to the objectives of the survey—required the efforts of one full-time and two part-time staff members of the Survey Planning and Development Branch, Division of Health Interview Statistics for 20 months. (See appendix VIII.)