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PROGRAMS AND COLLECTION PROCEDURES

Design and Methodology

for a National Survey

of Nursing Homes

A description of the sample design and survey procedure used by the National Center for Health Statistics for obtaining statistics about nursing homes in the United States, their patients, and their employees.

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PREFACE

A growing concern of public health administrators and others who have a responsibility for providing health facilities and services is the health and personal-care requirements of senior citizens. In response to this concern, the National Center for Health Statistics (NCHS) began a program in 1963 to collect statistics from long-stay hospitals and resident care institutions such as nursing and convalescent homes. The data from these surveys provide an objective basis for evaluating the health status of residents and patients and whether or not the available facilities and staff are sufficient to meet the patients' needs.

This report presents a detailed description of the design and methodology being used by the NCHS for a series of ad hoc surveys of nursing and personal care homes. It serves to provide technical support for the publications in *Vital and Health Statistics*, Series 12, which present the substantive findings of the surveys. However, an equally important objective of the report is to provide a tested and standard methodology that can be used by State and local agencies.

The development of methodology and conduct of the survey was a group effort, involving the staff of the U.S. Bureau of the Census, the National Center for Health Statistics, and of the many nursing homes which cooperated in the survey. George F. Kearns and Edward F. Knowles had primary responsibility in the U.S. Bureau of the Census for preparing instruction and interviewer training manuals and for providing liaison with the field staff of the Bureau of the Census who conducted the survey. The sample was designed by Walt R. Simmons, who also served as consultant on all phases of the survey. The survey was developed and conducted under the supervision of Earl Bryant with the assistance of Carl Taube and Gooloo Wunderlich of the NCHS staff. Mr. Bryant also prepared this report.

The success of the survey was made possible through the cooperation of many individuals, including Bureau of the Census interviewers and field supervisors and employees of nursing homes who completed questionnaires. Their assistance is gratefully acknowledged.

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CONTENTS

THIS REPORT gives a detailed description of the survey design used in 1964 by the National Center for Health Statistics (NCHS) for collecting statistics on the Nation's nursing homes, their patients and employees. The report also provides information on the magnitude of certain types of measurement errors, including errors in selecting the sample of employees, and of nonresponse.

The sample design was a stratified, two-stage probability design. The first stage was a systematic sample of homes from a list frame (the Master Facility Inventory) within each of 12 bed-size, type-of-service strata. A sample of patients and a sample of employees was selected from each of the sample nursing homes. The second stage sample was selected by the interviewer at the time of her visit to the home according to instructions provided by NCHS.

The survey was complex since information was collected about three different sampling units (homes, patients, and employees) and a number of different respondents and data sources were used.

The report gives a sequential account of how the survey was conducted in a home.

DESIGN AND METHODOLOGY FOR A

NATIONAL SURVEY OF NURSING HOMES

INTRODUCTION

An integral part of the program of the National Center for Health Statistics (NCHS) is a series of ad hoc national surveys of the institutional population. These, combined with surveys of the non-institutional population conducted by NCHS provide comprehensive statistical information about the health of the American people.[1-3]

The universe for the institutional population surveys includes both long-term medical and resident care facilities. Resident care facilities are those in which unrelated individuals reside, usually for relatively long periods of time (30 days or more), and those which provide special care of or take into custody residents, patients, or inmates. They may be classified into two major groups: (1) nursing and personal care homes and (2) custodial care homes, resident schools and penal institutions. A long-term medical facility is defined as any hospital with an average patient stay of 30 days or more.

The surveys are being conducted on an ad hoc basis, primarily because of the great heterogeneity of the institutional population and associated problems of measurement. They are not necessarily conducted in a sequence to gradually cover all types of institutions, nor to cover all types of institutions in a single survey. Rather, the type of survey to be conducted depends on current needs for data on specific segments of the population.

The first institutional population survey was of resident places providing nursing and personal care to the aged and chronically ill. Since this was the first national survey of its kind in the United States and because of the increased emphasis on the health and welfare of aged citizens, a large volume of data were needed—more than could be collected in a single survey. Consequently, it was decided to conduct the survey in two phases.

The first phase of the survey, referred to as Resident Places Survey-1 (RPS-1), was conducted in 1963 and was limited to the types of data that could be readily and reliably obtained by mail. This included information about the establishments (such as their admission policies and size) and certain personal and health characteristics of the residents or patients. Health characteristics that were easily discerned, such as patient's degree of ambulation, continence, mental awareness of surroundings, or his ability to see and hear, were reported by a nurse or other employee respondent. In addition to nursing and personal care homes, RPS-1 included long-term chronic disease units of general hospitals, as well as geriatric, chronic disease, and mental hospitals.

The second phase of the survey (RPS-2) was conducted in 1964 by personal visits to the establishments. Detailed information was collected on the characteristics of residents, including data on chronic conditions and impairments; on the characteristics of employees, such as their work experience, special training to care for the aged and chronically ill, and wages; and on certain characteristics of the establishments themselves. The scope of the survey was not as broad as RPS-1 in that it excluded all types of hospitals,

except those specializing in the care of geriatric patients. A number of reports have been published on the findings of both phases of the survey.[4-13]

This report describes the design and methodology used for RPS-2. It illustrates the procedures to be used in similar future surveys and provides technical background information for the substantive reports published in Series 12 of *Vital and Health Statistics*. The methodology is presented in detail so that others in State or local governments who may be planning similar surveys can have the benefit of this experience.

SURVEY METHODOLOGY

Development of Questionnaires and Procedures

The questionnaires ·and procedures were developed in a pilot study conducted in Washington, D.C., during the fall of 1963 and were refined in a pretest in Baltimore, Maryland, during the winter of 1964. In each instance, as well as in the national survey, the staff of the U.S. Bureau of the Census had the primary responsibility for training interviewers and collecting data. Content of the questionnaires and specifications and design of the survey were the responsibility of the National Center for Health Statistics.

A pilot study was necessary to obtain insight into a number of problems. Information was needed on the availability of data, how to phrase and order questions, the availability of lists of residents and employees which could serve as sampling frames, the most efficient and effective procedure for conducting the survey, the best time to arrange for interviews, and how to obtain completed questionnaires for employees not present or available at the time of interview.

Three interviewers were used in the pilot study. Two of them were regularly employed as interviewers for the Health Interview Survey, one of the major statistical activities of NCHS.[2] They were, therefore, familiar with much of the subject matter to be covered in RPS-2, especially about chronic conditions, impairments, use of special aids, and other data that they ordinarily collect in the household interviews. The other interviewer, regularly employed in another large

survey—Current Population Survey (CPS)[14]—conducted by the Bureau of the Census, had experience in establishment surveys but lacked the knowledge and experience of the other two in health surveys. The pilot study, as well as the pretest, provided an opportunity to determine the feasibility of using CPS interviewers in the national survey. If the CPS interviewers could be satisfactorily trained in the time allowed, more flexibility in the field staff could be attained.

At the close of a 1-day training session held at the Bureau of the Census, each interviewer was given five assignments. Administrators of the selected nursing homes were contacted by telephone to make appointments for conducting the survey. To aid the interviewers and to help insure cooperation, NCHS mailed a letter to each administrator. The letter told the purpose of the survey, solicited cooperation, and stated that a representative of the Bureau of the Census would call in a few days to determine a convenient time for visiting in the home.

For each appointment, the interviewer was accompanied by a statistician who was familiar with survey objectives. The statistician's primary role was to observe the interview and answer questions which might arise that the interviewer could not answer. Alternative approaches were tried during the series of interviews, and notes were made on problems that arose as well as on suggested solutions to the problems.

After all interviews were completed, a meeting was held with all the people participating in the pilot study to discuss individual experiences and to decide on procedures and questionnaires that were most likely to be successful. Following this discussion, the questionnaires were revised and definite procedures were formulated for the national survey.

A formal pretest was conducted during February 1964 in 19 nursing homes in Baltimore. The procedures developed in the pilot study seemed to function smoothly. Therefore, with minor adjustments, questionnaires and methodology were made ready for the national survey. The questionnaires, letters, and other forms developed and used in the national survey are reproduced in appendix IV. Definitions of terms are given in appendix II.

Procedures Used in the National Survey

Training of field supervisors and interviewers.—For the national survey, training of personnel was conducted in two stages. First, the people who were to supervise the field operations in the various regions of the country were instructed in all phases of survey operations, including training of interviewers, obtaining establishment cooperation, interviewing procedures, nonresponse followup, editing, and quality control. This instruction was given through the use of study manuals, training guides, and so forth, and in a formal 1-day training session attended by all regional supervisors for the Health Interview Survey program.

After the supervisors had become familiar with survey procedures and objectives, they were given the task of training interviewers in their respective regions.

Interviewer training was divided into two parts: a home-training assignment and on-the-job training by the supervisor on first interview assignments. At least 1 week before an interviewer was to complete her first interview assignment, she was sent a package of training materials, supplies, and instructions for contacting and obtaining the cooperation of establishments. Home training consisted of studying the interviewer instruction manual, answering questions about the questionnaires and procedures, and working through a practice narrative, i.e., a mock interview. Questionnaires were completed with the answers provided in the narrative. The material was presented in the same sequence as the procedure to be followed in conducting the survey in an establishment. The interviewer was told to read, in order, the appropriate sections of the training guide and instruction manual and to answer the questions that appeared at the end of each section. She was to compare her answers with those on a key and to review the troublesome areas before proceeding to the next section of the training materials. The interviewer was to make notes on anything not understood and to get them clarified by her supervisor before her first interview.

On-the-job training involved a meeting of the interviewer and supervisor immediately prior to the interviewer's first assignment, allowing 1 to 2 hours to discuss survey procedures and to answer any questions that the interviewer might have. Then the supervisor accompanied the interviewer on her first assignment to observe the interview. Afterwards they met again to discuss problems encountered in the interview.

As a quality control measure, statisticians from the Bureau of the Census and NCHS made visits to a number of the regional offices about 2 to 3 weeks after the survey began to be sure that the supervisors understood and were properly carrying out survey specifications. They also made spot checks on interviewer performance by visiting several establishments with the interviewers.

A total of 141 interviewers were employed in the survey, of which about half were regular interviewers for the Health Interview Survey. The remaining interviewers were employed in other continuing surveys conducted by the Bureau of the Census, most of whom were interviewers on the Current Population Survey.

Obtaining establishment cooperation.—The initial contact with the sample establishments was made by mail (Form HRS-3f in appendix IV) about a week prior to the time of the interviewer's visit to the establishment. The letter, signed by the Director of the Bureau of the Census, told the administrator about the survey, requested his cooperation, and indicated that a representative would call to make an appointment for conducting the survey. The interviewer's telephone call followed within 3 to 4 days. In the conversation, she suggested a date that fitted into her overall interviewing schedule, but to the extent possible, the administrator was given a choice. The interviewer tried to schedule the interview for about 9:30 a.m. so as not to interfere with the early morning duties at the home. Beginning this early, many of the interviews could be completed before noon. Those that could not be completed before noon were discontinued about 11:30 and resumed around 2:00 p.m. Since the length of an interview was uncertain, the interviewer was instructed not to make more than one appointment a day.

Visit to the establishment to conduct the survey.—After introducing herself to the admin-

istrator, the interviewer began the interview by describing briefly the three elements of information covered by the survey (establishment, staff, and patient information) and by specifying the order in which the interview was to proceed. The following is an example of the recommended approach:

> "Mr. Green, this first form (referring to the Establishment Questionnaire) is for obtaining information about the number of beds, number of employees, number of patients discharged last year and so on. As you can see, this will probably take five or ten minutes.

> "Next I want to get a list of all your employees. For some of them, I want to ask a few questions and have those who are available complete a very brief questionnaire.

> "Finally, I need to get some information about some of the patients or residents. Since this pertains primarily to health, I would probably need to get this information from the person in the immediate charge of their care."

This example was modified as necessary to fit the situation. To illustrate, in some homes the design called for collecting information on all staff and patients rather than on a sample. The interviewer emphasized that the data would be held strictly confidential by the Bureau of the Census and the National Center for Health Statistics and would be used for statistical purposes only. Ordinarily, with this assurance, the administrator did not hesitate to cooperate fully in the survey. However, if he was reluctant to identify the names of individuals, they were identified on the questionnaire by numbers only. Thus, to obtain information about such persons, the interviewer would pose questions like, "Now I want to ask about the third patient in the file; the eighth patient in the file," and so on.

Completion of the Establishment Questionnaire (HRS-3a).—The respondent, usually the administrator, was handed a copy of the form to make it easier for him to follow questions as they were asked by the interviewer. The respondent usually knew the answer to most of the questions. However, when he was not sure of the answers, he was requested to refer to records or possibly to another employee in the home. The procedure varied somewhat, depending on the situation, and it was left to the interviewer to choose the procedure that seemed most efficient and practicable. For example, she might point out to the administrator before the interview began that certain information would likely have to come from the records. The administrator could then assign another person to compile the necessary information while the interviewer proceeded with other parts of the survey. In general, records were used to obtain the number of residents in the home, number and types of discharges, and number of employees. The number of residents receiving nursing care during the week prior to the survey may have been based on the personal knowledge of the nurse providing care or on the records; the larger the home, the more likely that records would be available and used. In answering the question about residents receiving nursing care, the respondent had access to Card A, "List of Nursing Services" (appendix IV).

Completion of the Staff Information and Control Record (Form HRS-3b).—After completing the Establishment Questionnaire, the name (including the title of Mr., Mrs., Miss, or Dr.) of each employee working in the establishment 15 hours or more per week was listed on the Staff Information and Control Record, indicating in the appropriate column of the form the profession or type of work performed. As the respondent called out the name of each employee, he was asked, "What is his job here?" Reference was made to Card B, "List of Selected Job Categories," to determine the code number to enter on the form. (Card B is reproduced in appendix IV.) If the employee's job was in the group numbered 1-10 on Card B, he was considered "professional," and the code for his job was written in column 1 of the form. For an "administrator," it was determined if he performed any of the other jobs shown on Card B. If so, the code number(s) for the other job was entered in parenthesis beside the code numbers designating "administrator." If the employee's job was classified as Code 11 (other nursing personnel), he was considered "semiprofessional" and an "11" was written in column 2 of the form. Other employees

(numbers 12-15 on Card B) were considered as "nonprofessional." For each such person employed 15 hours or more per week, the appropriate code was written in column 3 of the form. If a person's job title was not listed on Card B, the interviewer used her judgment as to which group it belonged.

After the names of all employees were listed, the number listed was compared with the number recorded on the Establishment Questionnaire as usually working 15 hours or more per week in the establishment. If the numbers were different, they were reconciled and changes were made accordingly.

Next, a systematic sample of the employees listed on the Staff Information and Control Record was selected. The interviewer had specific instructions about how to select the sample, which are discussed in the next section on Design and Selection of the Sample. The remainder of the form was then completed for each sample person in the order listed.

In general, the question about the sample person's sex was asked only if it was not obvious from the person's name and title. The interviewer was instructed to make an entry for each item on the form for every sample person. If the information, which ordinarily came from payroll records, was not available, an entry of unknown was made.

Completion of the supplemental Staff Questionnaire (HRS-3d) and selecting a sample of residents.—Upon completion of the Staff Information and Control Record, the interviewer initiated a Staff Questionnaire for each "professional" and "semiprofessional" employee in the sample by entering an identification number, the employee's name, and the type of job he had in the establishment. For those on duty at the time of interview, questionnaires were distributed to be completed, if possible, before the interviewer left the establishment. The administrator was requested to distribute questionnaires to the remaining sample employees as they came to work. These employees, as well as those on duty at the time of the interview who were unable to complete the questionnaire right away, were asked to complete the form and mail it to the Bureau of the Census. Precaution was taken to guard the confidentiality of information provided by the staff present at

the time of the survey through the provision of envelopes in which a person could seal his completed form, if desired.

Completed questionnaires were returned to the interviewer, who reviewed each form for completeness before she left the establishment. The interviewer also made an entry on the Staff Information and Control Record for each sample "professional" and "semiprofessional" employee as to whether the supplemental Staff Questionnaire was completed at the time of her visit or whether a form was left to be completed later. Collecting forms before leaving the home was an important part of the survey methodology in that it minimized the need for expensive followups in case of nonresponses or incomplete responses, and it maximized the quality of completed questionnaires since the interviewer had a chance to review them for completeness.

Completion of the Resident Questionnaire (HRS-3c).—After completing the Staff Information and Control Record for each sample employee, the interviewer told the respondent that she needed to obtain certain information about a sample of the residents or patients in the home and asked if a list containing the names of all residents was available from which a sample could be selected. If not, a listing was made. In either case, however, the interviewer had to make sure that the list contained the names of all people who were on the register of the establishment, exclusive of discharges, and that the number registered was consistent with the number recorded on the Establishment Questionnaire. While the respondent was distributing the Staff Questionnaire to employees in the home, the interviewer selected a sample of residents and entered each of their names on the Resident Questionnaire.

The respondent, who was often the administrator at this point in the survey, was shown a copy of the questionnaire to indicate the specific types of information needed about the residents. He was asked if part or all of the information could be provided from records or if it would be necessary to obtain part of it, especially that pertaining to health, from a person directly responsible for care of the patients. Usually another person such as the nurse in charge of nursing care was designated as the respondent.

Records were assembled for each sample person and then the interview began, completing the Resident Questionnaire shown in appendix IV for each resident. Maximum use was made of the records for each question. However, it is believed that the respondent's personal knowledge was the primary source of veteran status, frequency of visits by relatives, limitation of mobility, use of special aids, use of dentures, and the primary type of care received by the resident at the time of his admission to the home.

In answering questions 9 (use of special aids), 13 (prevalence of chronic conditions), 14 (prevalence of impairments), and 17 (provision of nursing and personal care), special cards (Cards C–F) were used which listed possible answers (appendix IV).

Although the chronic conditions listed on Card D were in lay terms, an attempt was made to obtain the exact medical name of each condition reported. Thus, if the respondent said a patient's "heart trouble" was a myocardial infarction, the latter term was recorded in table 1 of the Resident Questionnaire.

Ordinarily, by the time the interview about residents was over, the Staff Questionnaires had been returned to the interviewer. These were reviewed for omissions and completed as necessary before the interviewer left the home.

The interviewer was also required to complete a special form called the "Interviewer Check List" (appendix IV) before leaving the establishment. This was instituted when the survey was about half finished to guard against the types of errors that seemed to be predominant, especially those relating to sample selection.

After completing the survey in an establishment, the questionnaires were mailed to a census regional office for certain processing before being sent to headquarters in Washington, D.C.

Regional office processing and followup.—As the questionnaires were received in the census regional offices, they were reviewed for completeness and for problem areas that may be apparent in the survey procedures. Editing consisted primarily of an inventory of forms to be sure that (1) a questionnaire was present for each sample person and each sample establishment, (2) each form was properly identified with a predetermined establishment number, (3) an entry appeared in certain crucial items of the questionnaires, (4) the sampling procedure was carried out properly, and (5) a control was kept on the receipt of Staff Questionnaires mailed in by respondents who did not complete questionnaires at the time of the interviewer's visit in the establishment. Mail or telephone followups were made as necessary to complete questionnaires or correct errors.

As Staff Questionnaires were received in the mail, they too were edited for completeness, and entries were made on the Staff Information and Control Record to show the date the form was received in the regional office.

Nonresponse followup involved two stages of solicitation. The first was by mail 1 week after the interviewer's visit in the home (Form HRS–3g, appendix IV), and the second was 2 weeks later by telephone. In both instances the sample employee was contacted. Results of the nonresponse followup are discussed in the section on Evaluation of Measurement Errors.

When Staff Questionnaires had been received from all sample employees and when errors or omissions had been corrected, the questionnaires were forwarded to Washington for final processing.

In Washington, spot checks were made of completed questionnaires throughout the survey to detect any errors consistently being made. As such errors were detected, they were brought to the attention of all regional office directors. In fact, these spot checks ultimately led to instituting a routine procedure (the Interview Check List shown in appendix IV) for the interviewers to use to minimize errors.

DESIGN AND SELECTION OF THE SAMPLE

The RPS–2 was based on a stratified, two-stage probability design. The first stage was a systematic sample of establishments. With these establishments serving as primary sampling units, systematic samples of residents and employees were selected.

The design was to be approximately optimum to produce statistics with a specified precision at a minimum cost. The ability to produce such

a design was conditioned by the fact that no single factor could determine uniquely the design. This was a multipurpose survey; therefore the design had to be balanced to satisfy a number of objectives. Also the design would need to be based on less than precise information about population variances and unit costs, which were determined from pretest data and other national surveys.

In planning the RPS-2, some of the leading considerations were as follows:

1. The survey should provide separate estimates for each of 12 bed-size, type-of-service strata.

2. Estimates were required for specified characteristics of establishments, resi-

Table A. Number of establishments, beds, and employees in the RPS-2 sampling frame, by primary strata (type of service and size of establishment)

Type of service and size of establishment	Number of establishments		Number of beds Group I	Number of employees Group I
	Group I	Group II [1]		
Total--------------------------------------	16,748	2,772	587,300	256,200
Nursing care				
All sizes----------------------------------	8,155	2,772	336,800	172,400
Under 30 beds------------------------------	4,400	2,578	79,000	42,500
30-99 beds---------------------------------	3,247	185	158,300	80,900
100-299 beds-------------------------------	448	6	66,000	32,500
300 beds and over--------------------------	60	3	33,500	16,500
Personal care with nursing				
All sizes----------------------------------	4,972	-	189,400	66,600
Under 30 beds------------------------------	3,168	-	47,900	18,700
30-99 beds---------------------------------	1,423	-	71,800	26,200
100-299 beds-------------------------------	345	-	52,400	16,700
300 beds and over--------------------------	36	-	17,300	5,000
Personal care				
All sizes----------------------------------	3,621	-	61,100	17,200
Under 30 beds------------------------------	3,187	-	37,200	10,500
30-99 beds---------------------------------	402	-	18,500	5,100
100-299 beds-------------------------------	29	-	4,300	1,300
300 beds and over--------------------------	3	-	1,100	300

[1] The establishments in Group II are classified on the basis of old information obtained from source lists used in assembling the MFI. They are shown under nursing care in this table for convenience.

dents, and employees. Certain parameters to be estimated may prevail in no more than 1 percent of the population.

3. The estimated statistics should be within 20 percent of its true value at least 95 percent of the time.

4. Estimates should be derived from a ratio estimation technique insofar as possible, utilizing census-type data collected in a previous survey.

5. The type of detail needed from the survey demanded that the survey be conducted by personal visits to sample establishments.

6. The sample size for residents or staff within an establishment should have an upper limit of 10 to 15 persons. This was necessary since one person often would respond for all sample persons.

The Sampling Frame and Stratification Procedure

Conceptually, the sampling frame for the survey was composed of all establishments in the United States that provided long-term nursing and personal care to the aged and chronically ill. This included such places as geriatric hospitals, nursing and convalescent homes, and homes for the aged. The principal frame was the Master Facility Inventory (MFI), which is a listing of the names, addresses, and descriptive data for the vast majority of institutions and hospitals in the United States. The MFI was supplemented by a probability sample of establishments not in the MFI list, which is commonly referred to as the Complement Survey. A detailed description of the MFI and the Complement Survey has been published.[15,16]

The establishments in the MFI were divided into two groups on the basis of whether or not current information was available about the establishment. Group I was composed of establishments which returned a questionnaire in a previous survey of the MFI. Group II contained places which were possibly within the scope of RPS-2 but were not confirmed in the MFI survey,

i.e., nonresponse, questionnaires not delivered by the Post Office because of insufficient addresses, and newly listed establishments which had not been sent a questionnaire. Group I was sorted into 12 type-of-service, bed-size groups. Further stratification within each of these primary strata was accomplished by sorting on type of ownership and then on State and county within each service-size-ownership group. Group II was considered a separate stratum and was substratified in a similar manner except that the specific type of establishment was not known. Only information from source lists used in assembling the MFI was available for Group II places. The distribution of establishments, beds, and employees in the sampling frame by primary strata (type of service and size of establishment) is shown in table A. The procedure for classifying establishments by type of service is shown in appendix III.

Selection of Sample Establishments

The sampling of establishments from the MFI was systematic after a random start within each of the primary strata. The first-stage sampling fractions varied depending on the size and type of establishment, ranging from unity for establishments with 300 beds and over to 1 in 50 for personal care homes with less than 30 beds. Table B shows for each stratum the sampling fractions used, number of establishments selected in the sample, and the number of establishments in scope and in business at the time of the survey.

It should be noted that the majority of the establishments in Group II were either out of business or out of scope of the survey. Of the 73 places selected in the original sample, only 19 were found to be in business and within the scope of RPS-2.

Selection of Sample Employees

The sample of employees was selected by Bureau of the Census interviewers, using a systematic sampling technique after a random start within each of three job category strata. The random "start with" number and sampling inter-

Table B. Sampling fractions for selecting establishments for RPS-2, and distribution
of the sample by primary strata (type of service and size of establishment)

Type of service and size of establishment	Sampling fraction	Total in sample	Number in scope and in business
Group I			
Total---	-	[1]1,128	[1]1,066
Nursing care			
All sizes--	-	634	597
Under 30 beds---	1/25	179	158
30-99 beds--	2/25	260	249
100-299 beds--	3/10	135	132
300 beds and over---	1/1	60	58
Personal care with nursing			
All sizes--	-	381	369
Under 30 beds---	1/25	128	118
30-99 beds--	2/25	114	113
100-299 beds--	3/10	103	102
300 beds and over---	1/1	36	36
Personal care			
All sizes--	-	113	100
Under 30 beds---	1/50	64	53
30-99 beds--	2/25	32	32
100-299 beds--	1/2	14	12
300 beds and over---	1/1	3	3
Group II			
Total---	-	73	19
Under 25 beds---	1/50	52	15
25-99 beds--	2/25	15	3
100-299 beds--	1/2	3	-
300 beds and over---	1/1	3	1

[1]The sample includes 4 establishments from the Complement Survey; see text for explanation.

val ("take every" number) were specified by the Washington office and were entered on the Staff Information and Control Record for each estab-

lishment in the sample. These figures were determined by using the following tables:

For Professional Staff

Strata·code	11	12	13	14	21	22	23	24	31	32	33	34	81	82	83	84
Start with	1	1	4	ψ	1	1	2	ψ	1	1	2	ψ	1	1	3	ψ
Take every	all	all	4	9	all	all	4	9	all	all	4	9	all	all	4	9

ψDenotes variable "start with" numbers ranging from 1-9 (see text).

Semiprofessional Staff

Strata code	11	12	13	14	21	22	23	24	31	32	33	34	81	82	83	84
Start with	1	$\psi\psi$	5	17	1	$\psi\psi$	6	12	1	$\psi\psi$	1	1	1	$\psi\psi$	6	12
Take every	all	2	8	18	all	2	8	18	all	2	8	18	all	2	8	18

$\psi\psi$Denotes a variable "start with" number of either 1 or 2.

Other Staff

Strata code	11	12	13	14	21	22	23	24	31	32	33	34	81	82	83	84
Start with	1	$\psi\psi$	5	17	1	$\psi\psi$	6	12	1	$\psi\psi$	1	1	1	$\psi\psi$	6	12
Take every	all	2	8	18	all	2	8	18	all	2	8	18	all	2	8	18

$\psi\psi$Denotes a variable "start with" number of either 1 or 2.

The establishment stratum code, which was determined from the name and address label on the Resident Questionnaire for each sample establishment, identified the appropriate "start with" and "take every" numbers for each of the job categories. For example, if the stratum code for the establishment was 33, the "start with" number for professional staff was 2 and the sampling interval was 4; for both semiprofessional and other staff the "start with" number was 1 and the sampling interval was 8.

In certain instances, variable "start with" numbers were used. For professional staff employed in establishments with 300 beds and over (denoted by ψ in the table for professional staff), a "start with" number of 1-9 was assigned in

numerical order to the first nine establishments listed in each of strata 14, 24, 34, and 84. The process was repeated until the starting number had been assigned for each of the establishments in these strata. For semiprofessional and other staff employed in establishments with 30-99 beds (denoted by $\psi\psi$ in the above tables) a number "1" or "2" was assigned alternately to each establishment in the affected strata (strata 12, 22, 32, and 82).

Part of the procedure that an interviewer followed in conducting the survey in an establishment was to make a list of all employees working in the establishment 15 hours or more per week and to select a sample of employees. The procedure used for establishing this sampling

Table C. Number of employees in sample establishments, number of employees in the sample who responded, and number of employees in the sample per sample establishment, by job category and primary strata (type of service and size of establishment)

Type of service and size of establishment	Number of employees in sample establishments				Number of employees in the sample who responded				Number of employees in the sample per sample establishment		
	Total	Professional	Semi-professional	Other	Total	Professional	Semi-professional	Other	Professional	Semi-professional	Other
All types--	49,993	9,341	17,841	22,811	11,832	3,710	4,277	3,845	3.4	3.9	3.5
GROUP I											
Nursing care											
Under 30 beds--	1,812	495	842	475	1,661	495	777	389	3.1	4.9	2.5
30-99 beds-----	6,371	1,369	2,918	2,084	3,853	1,358	1,459	1,036	5.5	5.9	4.2
100-299 beds---	10,538	1,817	4,411	4,310	1,474	395	548	531	3.0	4.2	4.0
300+ beds------	16,441	3,309	5,141	7,991	1,047	368	266	413	6.3	4.6	7.1
Personal care with nursing											
Under 30 beds--	765	207	334	224	765	207	334	224	1.8	2.8	1.9
30-99 beds-----	2,211	375	903	933	1,286	371	455	460	3.3	3.9	4.1
100-299 beds---	5,128	769	1,463	2,896	717	212	165	340	2.1	1.6	3.3
300+ beds------	5,130	693	1,379	3,058	309	78	69	162	2.2	1.9	4.5
Personal care											
Under 30 beds--	202	76	42	84	190	73	41	76	1.4	0.8	1.4
30-99 beds-----	425	87	127	211	250	87	61	102	2.7	1.9	3.2
100-299 beds---	510	65	100	345	85	20	17	48	1.7	1.4	4.0
300+ beds------	259	36	86	137	20	4	7	9	1.3	2.3	3.0
GROUP II											
Under 25 beds--	143	32	63	48	143	32	63	48	2.1	4.2	3.2
25-99 beds-----	52	9	30	13	31	9	15	7	3.0	5.0	2.3
100-299 beds---	-	-	-	-	-	-	-	-	-	-	-
300+ beds------	6	2	2	2	1	1	-	-	1.0	-	-

frame is described on page 4. The sample of employees was selected by applying the "start with" and "take every" numbers that appeared in the heading of the Staff Information and Control Record for an establishment. Table C shows by primary strata the distribution of total employees in the sample establishments, employees in the sample who responded, and the number of employees selected in the sample per sample establishment.

There was no particular order for listing employees in the sampling frame. For the most part, payroll records were used to identify employees for the listing. Sometimes, especially for small places, the list was made up on the basis of the respondent's memory. The order was alphabetical by employee name for some places, in numerical order according to procedures used in numbering records in other places, and still in other places the names were ordered according to the employee's type of work. Consequently, there is no apparent reason to believe that the order of the listing resulted in an appreciable systematic bias in the sample estimates.

Selection of Sample Residents

In general, the procedure for selecting a sample of residents from an establishment was similar to that for sampling employees. A major difference was that residents were not stratified within a place while employees were. Thus, for residents, stratification was done only in the first-stage sample of establishments. The overall sampling fraction was 1 in 50 for each stratum. That is, within each stratum, the product of the fraction for selecting establishments and the fraction for selecting residents was 1 in 50; therefore, the sample was theoretically self-weighting.

A random "start with" number and "take every" number were entered on page 3 of the Resident Questionnaire for each sample establishment prior to interview assignment. The numbers were determined from the following table by knowing the establishment strata code which was part of the name and address label.

For nursing care homes and personal-care-with-nursing homes with less than 30 beds (strata codes 11 and 21), "start with" numbers "1" and "2" were assigned alternately to each establishment in the two strata.

In addition to entering the "start with" and "take every" numbers on the Resident Questionnaire, the first three sample designation numbers were written on page 2 of the questionnaire (a listing sheet for sample designation numbers and for sample persons). This provided an example for the interviewer to follow in determining the remaining sample designation numbers for the establishment. Specific instructions of how to determine the sample designation numbers and how to select a sample of residents were written on page 3 of the questionnaire.

The sampling frame of residents, i.e., a list of persons who were registered as patients or residents in the home at the time of the survey, was usually readily available in one form or another. If not, the interviewer created a list. The order of the lists varied for different establishments—some were in alphabetical order, some were in order by serial numbers, and others were in order according to date of admission. Possibly the most common sequence was alphabetical.

In determining an appropriate sampling frame, the interviewer was instructed to make sure that the list did not contain the names of anyone who was no longer a resident. As a check on the accuracy of the sampling frame, the number of persons listed was compared with the number reported earlier in the interview by the respondent in answer to the question "How many residents (patients) are currently on your register as formal admissions who have not been discharged? Do not include employees or proprietors." (See Establishment Questionnaire in appendix IV.) When there was a difference in the two numbers, reconciliation and necessary corrections were made. Table D shows the distribution of the number of residents in the sample establishments and the number of residents selected in the sample by strata.

EVALUATION OF MEASUREMENT ERRORS

The data collected in RPS-2 are subject to two types of errors: errors of measurement and sampling errors. Measurement errors include response errors; nonresponse errors; and errors made in sample selection, data processing, or other deviations from the specified sample design.

Strata code	11	12	13	14	21	22	23	24	31	32	33	34	81	82	83	84
Start with----------	ѱѱ	1	9	46	ѱѱ	2	3	57	1	2	5	49	1	4	16	20
Take every----------	2	4	15	50	2	4	15	50	all	4	25	50	all	4	25	50

ѱѱDenotes a variable "start with" number of either 1 or 2.

Table D. Number of residents in sample establishments and number of residents selected in the sample, by primary strata (type of service and size of establishment)

Type of service and size of establishments	Total number of residents	
	In sample establishments	In the sample
All types[1]		
All sizes-------	100,129	10,342
Under 30 beds---------	5,034	2,669
30-99 beds------------	17,918	4,593
100-299 beds----------	33,960	2,252
300 beds and over-----	43,217	828
Nursing care		
All sizes-------	61,171	6,106
Under 30 beds---------	2,955	1,395
30-99 beds------------	11,430	2,948
100-299 beds----------	18,520	1,223
300 beds and over-----	28,266	540
Personal care with nursing		
All sizes-------	35,206	3,358
Under 30 beds---------	1,565	760
30-99 beds------------	5,352	1,358
100-299 beds----------	13,827	960
300 beds and over-----	14,462	280
Personal care		
All sizes-------	3,752	878
Under 30 beds---------	514	514
30-99 beds------------	1,136	287
100-299 beds----------	1,613	69
300 beds and over-----	489	8

[1]These figures exclude residents of Group II sample establishments.

Sampling error, on the other hand, is primarily a measure of variability in estimates that occurs by chance because only a sample of the population is surveyed. The methodology for computing sampling errors, as well as for making estimates based on RPS-2 data, is given in appendix I.

As calculated for RPS-2 data, the sampling error also reflects part of the variation which arises in the measurement process. However, systematic accumulative biases are not part of the sampling error. Objective evaluation of such biases usually require special studies, carried out under a controlled procedure, which were not done for RPS-2. As pointed out in other parts of the report, however, an attempt was made to keep systematic bias to a minimum by certain built-in controls.

Evaluation of Errors in Selecting Sample of Employees

Since the names of every sample employee working 15 hours or more per week were listed on the Staff Information and Control Record, it was possible to detect deviations from the specified sampling procedure. The types of errors that could occur included (1) the number of employees listed in the sampling frame that did not agree with the number reported by the respondent to be working 15 hours or more per week (question 10 on the Establishment Questionnaire), (2) errors in the listing of employees who usually worked less than 15 hours per week, (3) entering a code for a job category in the wrong column of the Staff Information and Control Record and thus in the wrong strata, (4) failure to enter a job category code for a listed employee, and (5) misapplying the "start with" and "take every" numbers. In all 142 such errors were made—about one error per interviewer for all of her assignments, which included, on the average, about eight establishments. About half of the interviewers carried out the sampling procedures without a detected error. Also, the errors were concentrated in only a few of the homes. Of the 1,073 places for which Staff Questionnaires were completed, deviations from specified sampling procedures occurred in 123 (11 percent) of the homes. Thus, except for a few instances, there was only one error per home. As part of the field editing procedures, the interviewer's work relating to sampling was reviewed. Any errors found were referred to the Washington Office for a decision as to whether the errors were serious enough to resample employees in an establishment. The errors discussed in this section were

Table E. Number and percent distribution of the sample of professional and semiprofessional employees, by job category and response status

Job category	Total employees in sample		Response status			
			Questionnaire returned		Questionnaire not returned	
	Number	Percent	Number	Percent	Number	Percent
Total-------------------------	7,994	100.0	7,537	94.3	457	5.7
Administrators--------------------	969	100.0	948	97.8	21	2.2
Registered nurses-----------------	1,207	100.0	1,148	95.1	59	4.9
Licensed practical nurses---------	1,266	100.0	1,180	93.2	86	6.8
Nurse's aides--------------------	4,278	100.0	3,999	93.5	279	6.5
Other professionals--------------	274	100.0	262	95.6	12	4.4

considered too minor to warrant the expense of revisiting the establishments involved.

Nonresponse

Several types of nonresponse were possible, such as (1) an establishment refused to cooperate, (2) an establishment cooperated by providing information on only certain parts of the survey, (3) Staff Questionnaires left at the establishment to be completed by the sample employee were not mailed to the census regional office, or (4) certain items on the questionnaire were not completed. The only types of nonresponse of any consequence were types (3) and (4). Only 12 of the 1,085 sample places refused to cooperate. Seven of these were quite small, maintaining fewer than 30 beds; four had 30-99 beds; and one had 100-299 beds.

The overall nonresponse rate for professional and nonprofessional personnel was 5.7 percent. The rate ranged from a low of 2.2 percent for administrators to 6.8 percent for LPN's as indicated in table E. The low nonresponse rate for administrators was because most of their responses (71 percent) were obtained by the interviewers. The major reason for nonresponse was the inability to contact the employee. Of the 5.7 percent total nonresponse, 1 percentage point

had changed their place of employment and their addresses or telephone numbers were not available and 2.5 percentage points could not be contacted for other reasons. Only 0.2 percentage points were attributed to refusals.

Failure to obtain answers to items on the questionnaires was generally not a problem as indicated in tables F, G, and H.

Table F shows the percent of items on the Establishment Questionnaire not completed. The

Table F. Percent of items on the Establishment Questionnaire not completed, by item

Item	Percent not completed
Number of residents receiving nursing care------------------	0.9
Who is in charge of nursing care-------------------------	3.8
Full time or part time--------	4.1
24-hour nursing care----------	4.6
Physician arrangement---------	0.6
Dentist arrangement-----------	0.6
Deaths during 1963------------	2.1
Discharges other than deaths during 1963-------------------	6.4

proportion was less than 5 percent for all items except live discharges.

The nonresponse rate for sample residents ranged from almost zero for sex to a high of 21 percent for veteran's status (table G). During the developmental stage of the survey, there was an indication that many respondents (i.e., administrators, nurses, etc.) would not know whether a patient was a veteran. Therefore, in the national survey the interviewers were instructed to obtain the information from the patient himself if it was not available elsewhere. Apparently, the question was confusing to some of the interviewers since it was not answered for such a high proportion of residents.

Table H shows the percent of nonresponse for specified items on the Staff Information and Control Record and the Staff Questionnaire. The nonresponse rate was so high for some items that the

Table G. Percent of items on the Resident Questionnaire not completed, by item

Item	Percent not completed
Age:	
Month and years-----------	0.7
Month only-----------------	10.8
Sex------------------------	0.0
Veteran status-------------	21.0
Marital status-------------	1.6
Date admitted:	
Month and year------------	1.0
Month only-----------------	1.5
Residence prior to admission--	3.0
How often visited-----------	2.1
Special aid-----------------	1.2
Date last saw doctor:	
Month only-----------------	2.0
Month and year-------------	1.5
Date last saw dentist:	
Lost all teeth-------------	3.0
Full dentures--------------	0.3
Initial care---------------	0.9
Charges--------------------	1.8
Primary source-------------	2.0
Secondary source-----------	6.4
Nursing services received-----	1.0
Mobility status-------------	[1] N.A.

[1] Not ascertained.

Table H. Percent of items on the Staff Information and Control Record and the Staff Questionnaire not completed, by item

Item	Percent not completed
Job category-------------------	0.4
Pay period, wages, and hours worked per week:	
Total sample---------------	6.0
Administrators-------------	28.6
Other professional---------	4.2
Semiprofessional-----------	2.7
Nonprofessional------------	5.3
Sex---------------------------	1.0
Room and board----------------	2.3
Month last started work in this establishment----------	7.7
Year last started work in this establishment---------------	2.5
Age---------------------------	3.0
Work experience in this establishment-------------------	6.1
Education:	
Level and grade------------	1.2
Grade only-----------------	0.3
Special courses--------------	8.5
Degrees ---------------------	13.9

estimates were meaningless. Items of nonresponse for each job category included pay period, wages, and hours worked per week—of which 28.6 percent of the administrators left one or more of the items blank. The percent of nonresponse was reported for the three items combined for each job category because of the way nonresponse for these items were imputed. Rather than impute for each item separately, it was considered best to impute for all three if any one of them was left blank. When possible, the procedure was to assign the wages, hours worked, and pay period of a person in a similar job working in the same establishment to those persons who did not respond.

The nonresponse rate was also high for item 4 on the Staff Questionnaire, which concerns the degree, diploma, or license that an employee may have had. Nevertheless, information from the 86 percent who answered the question was valuable since the primary use of the data was to evaluate

the validity of the person's classification by job category. The question concerning special courses in the care of the aged and chronically ill was also often left blank. Of the total sample employees, information was obtained from only 85.7 percent. The nonresponse rate of 14.3 percent included 5.8 percent of employees who did not send in a questionnaire plus 8.5 percent who did not answer the question.

Although the nonresponse rate for the question on education was low, the data have serious limitations for another reason. College education was not adequately defined in the survey, especially as it pertained to nursing education. Some registered nurses, for example, indicated that they had 3 years of college as a result of their training to become a nurse, when the nursing school they attended was not affiliated with a college or university; others with the same training said they had only a high school education.

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APPENDIX I

ESTIMATION AND SAMPLING VARIANCE EQUATIONS

Three basic types of statistics were collected in RPS-2: X-characteristics of residents, Y-characteristics of employees, and Z-characteristics of establishments. The principal type of estimate derived from these data was a total such as the number of residents aged 65-74 with arthritis, the number of RN's with 5 years or more of experience, or the number of beds in nursing care homes. The formulas for obtaining estimates relating to residents, employees, and establishments are shown below.

Estimator for Resident-Type Statistics

The estimated total number of residents with an X-characteristic is denoted by $\hat{X}$ where

$$\hat{X} = \hat{X}_1 + \hat{X}_2 + \hat{X}_3 ,$$

$$\hat{X}_1 = \sum_{i=1}^{L_1} \frac{B_i}{\hat{B}_i} \frac{M_i}{m_i} \sum_{j=1}^{\dot{m}_i} \frac{N_{ij}}{\dot{n}_{ij}} \sum_{k=1}^{\dot{n}_{ij}} X_{ijk},$$

$$\hat{X}_2 = \sum_{i=1}^{L_2} \frac{M_i}{\dot{m}_i} \sum_{j=1}^{\dot{m}_i} \frac{N_{ij}}{\dot{n}_{ij}} \sum_{k=1}^{\dot{n}_{ij}} X_{ijk}, \text{ and}$$

$\hat{X}_3$ = weighted sum of residents with the X-characteristic selected from the Complement Universe, i.e., from places not listed in the MFI.

The terms involved in the equations are defined as follows:

X_{ijk} = X-characteristic of kth resident in the jth establishment in the ith service-size stratum.

B_i = total number of beds maintained by establishments in the ith service-size stratum of the MFI, based on data collected in the MFI survey and adjusted to exclude beds in establishments no longer in business or out of scope of RPS-2.

$\hat{B}_i = \dfrac{M_i}{\dot{m}_i} \sum\limits_{j=1}^{\dot{m}_i} B_{ij}$ = estimated number of beds maintained by responding in-scope establishments in the ith service-size stratum of the MFI based on data collected in the MFI survey.

M_i = total establishments in the ith stratum of the universe.

m_i = number of sample establishments selected from the ith stratum.

$\dot{m}_i$ = number of responding in-scope sample establishments in the ith stratum.

N_{ij} = total number of residents on the register of the jth sample establishment in the ith stratum.

$\dot{n}_{ij}$ = number of sample residents in the jth establishment in the ith stratum for whom questionnaires were completed.

L_1 = number of primary strata from which establishments were selected with probability less than 1.

L_2 = number of primary strata from which establishments were selected with probability of unity, plus the Group II stratum.

The estimator for $\hat{X}_1$ includes correction for nonresponse of both establishments and residents, in that $\dot{n}_{ij}$ refers only to responding residents and $\hat{B}_i$ is an estimate based only on responding establishments. B_i is the actual number of beds in the ith stratum of the MFI, including beds maintained by establishments not responding in RPS-2. The estimator for $\hat{X}_2$ differs from that for $\hat{X}_1$ primarily because it does not contain the ratio adjustment; it is an estimate of an X-characteristic among residents in establishments with 300 beds or more and in establishments in Group II of the sampling frame.

Estimator for Employee-Type Statistics

This estimator is similar to that for residents, except that it takes into consideration the stratification of employees within establishments and contains a ratio adjustment by strata to correct for underrepresentation

or overrepresentation of specific job categories in the particular samples selected within the establishments.

The estimate $\hat{Y}$ of an employee statistic Y is given by the equation:

$$\hat{Y} = \hat{Y}_1 + \hat{Y}_2 + \hat{Y}_3 \; .$$

The subscripts refer to the same subgroups as explained above for residents.

$$\hat{Y}_1 = \sum_{i=1}^{L_1} \frac{B_i}{\hat{B}_i} \frac{M_i}{m_i} \sum_{j=1}^{\dot{m}_i} \sum_{r=1}^{3} \frac{T_{ijr}}{\dot{t}_{ijr}} \sum_{s=1}^{f} \frac{T_{i.rs}}{\hat{T}_{i.rs}} \sum_{k=1}^{\dot{n}_{ijrs}} Y_{ijrsk} \; .$$

$\hat{Y}_2$ is represented by a similar expression, except that it does not include the first-stage ratio adjustment $B_i/\hat{B}_i$, but has instead a nonresponse adjustment factor $m_i/\dot{m}_i$.

$\hat{Y}_3$ is the weighted sum of employees with a Y-characteristic who were selected from establishments in the Complement Survey universe.

The terms used in the equations are defined as follows:

T_{ijr} = total employees in the rth employee stratum in the jth establishment in the ith service-size stratum.

$\dot{t}_{ijr}$ = total responding sample employees in the rth employee stratum in the jth establishment in the ith service-size stratum.

$T_{i.rs}$ = total employees in the Sth job category in the rth employee stratum in the ith service-size stratum.

$$\hat{T}_{i.rs} = \sum_{j=1}^{\dot{m}_i} \frac{T_{ijr}}{\dot{t}_{ijr}} \dot{t}_{ijrs} \quad \text{where}$$

t_{ijrs} = total responding sample employees in the Sth job category in the rth employee stratum in the jth establishment in the ith service-size stratum.

Other terms in the formula are defined as part of the X-statistic estimator.

Estimator for Establishment Statistics

The estimator for statistics such as number of establishments, number of beds, or other statistics which may be considered as characteristics of establishments is represented by the following equation:

$$\hat{Z} = \hat{Z}_1 + \hat{Z}_2 + \hat{Z}_3 \quad \text{where}$$

$$\hat{Z}_1 = \sum_{i=1}^{L_1} \frac{B_i}{\hat{B}_i} \frac{M_i}{m_i} \sum_{j=1}^{\dot{m}_i} Z_{ij} \; ,$$

$$\hat{Z}_2 = \sum_{i=1}^{L_2} \frac{M_i}{\dot{m}_i} \sum_{j=1}^{\dot{m}_i} Z_{ij} \; , \quad \text{and}$$

$\hat{Z}_3$ is a weighted sum of Z-characteristics among establishments in the Complement Survey.

Each term of the equations has been defined previously in the report.

Procedure for Computing Sampling Errors

The formulation of sampling variance is different, depending on the estimation technique employed in a strata—whether a ratio estimate or a simple inflation estimate is used and whether the estimate involves single-stage or two-stage sampling. For simple inflation estimates involving two-stage sampling, the following formula was used to obtain the sampling variance of an estimated total, $\hat{X}_i$, for the ith stratum.

$$\sigma^2_{\hat{X}_i} = \frac{M_i^2(M_i - \dot{m}_i)}{M_i \dot{m}_i} \hat{S}^2_{1X_i} + \frac{M_i^2}{\dot{m}_i} \left\{ \frac{1}{\dot{m}_i} \sum_{j=1}^{\dot{m}_i} \frac{N_{ij}^2(N_{ij} - n_{ij})}{N_{ij} \dot{n}_{ij}} \hat{S}^2_{2X_{ij}} \right\}$$

where $\hat{S}^2_{1X_i}$ and $\hat{S}^2_{2X_{ij}}$ are estimators of $S^2_{1X_i}$ and $S^2_{2X_{ij}}$, respectively, and are represented by the formulas:

$$\hat{S}^2_{1X_i} = \sum_{j=1}^{\dot{m}_i} \frac{(\hat{X}_{ij} - \bar{\hat{X}}_i)^2}{\dot{m}_i - 1} - \sum_{j=1}^{\dot{m}_i} \frac{N_{ij}^2(N_{ij} - \dot{n}_{ij})}{N_{ij} \dot{n}_{ij}} \sum_{k=1}^{\dot{n}_{ij}} \frac{(X_{ijk} - \bar{\bar{X}}_{ij})^2}{\dot{m}_i(\dot{n}_{ij} - 1)}$$

$$\hat{S}^2_{2X_{ij}} = \sum_{k=1}^{\dot{n}_{ij}} \frac{(X_{ijk} - \bar{\bar{X}}_{ij})^2}{\dot{n}_{ij} - 1} \; .$$

For estimates based on the first stage of sampling (e.g., an establishment-type statistic such as the number of beds), the last term of the variance formula vanishes. In strata where ratio estimates were used, the variance formulation is more complex and may be represented by the general variance equation

$$\sigma^2_{\hat{X}_i} = \frac{M_i^2(M_i - \dot{m}_i)}{M_i \dot{m}_i} \left[\hat{S}^2_{1X_i} + \hat{R}_i^2 \hat{S}^2_{1B_i} - 2\hat{R}_i \hat{S}_{1X_i B_i} \right]$$

$$+ \frac{M_i^2}{\dot{m}_i} \left[\frac{1}{\dot{m}_i} \sum_{j=1}^{\dot{m}_i} \frac{N_{ij}^2(N_{ij} - \dot{n}_{ij})}{N_{ij} n_{ij}} \hat{S}^2_{2X_{ij}} \right]$$

where $\hat{S}^2_{1B_i} = \sum_{j=1}^{\dot{m}_i} \frac{(B_{ij} - \bar{B}_i)^2}{m_i - 1}$

and $\hat{S}_{1X_i B_i} = \sum_{i=1}^{\dot{m}_i} \frac{(X_{ij} - \bar{X}_i)(B_{ij} - \bar{B}_i)}{\dot{m}_i - 1}$.

In the above formulas, the following terms need defining:

$S^2_{1x_i}$ and similar terms represent the variation between establishments in the ith stratum; $S^2_{2x_{ij}}$ is a measure of variation within the jth establishment in the ith stratum.

$\hat{X}_{ij}$ = estimated total number of units in the jth establishment in the ith stratum with the X-characteristic.

$\hat{\bar{X}}_i$ = average estimated total number of units per establishment in the ith stratum with the X-characteristic.

$\hat{\bar{\bar{X}}}_{ij}$ = estimated average number of persons in the jth establishments in the ith stratum with the X-characteristic.

$\hat{R}_i = \hat{X}_i / \hat{B}_i$

In RPS-2 a variety of estimates were made, such as the number of residents by sex, age, health condition, service received, and so forth. Each of those estimates has a sampling variance, and, in general, the variance of one statistic is different from that of another. Since it was not feasible to compute variances for all of the statistics derived from the survey, an approximate method was used which in essence involved fitting a curve to a number of point estimates, computed by the exact formulas shown above. The curve-fitting operation is an iterative process on a computer, using the general equation $Y_{ij} = a_i + \dfrac{b_i}{X_j}$. Y_{ij} is the relvariance of the jth statistic (X_j) from the ith curve. The constants "a" and "b" are functions of the estimates and the computed point estimates of relvariances. (The relvariance is the ratio of the variance to the square of the estimate. For example, the relvariance of X_j is $\sigma^2_{x_j} / (X_j)^2$.)

—————○ ○ ○—————

APPENDIX II

DEFINITIONS OF TERMS USED IN THE SURVEY

Four numbered forms were used in the survey and are reproduced in Appendix IV. Form HRS-3a, the Establishment Questionnaire, and Form HRS-3b, the Staff Information and Control Record, were combined into a booklet of forms, one of which was used for each establishment in the sample. Form HRS-3c, the Resident Questionnaire, was also in booklet form, containing a listing sheet on which the name of each sample resident was recorded, instructions for selecting a sample of residents, and 14 individual resident questionnaires. Ordinarily, only about 10 residents in a home were in the sample; therefore, except in rare instances, one booklet was sufficient for a home. Form HRS-3d was a loose-leaf, single-page questionnaire for collecting supplemental information about the professional and semiprofessional employees in the sample. It was the only questionnaire of the four to be completed by the sample person himself.

Terms Used on the Establishment Questionnaire (HRS-3a)

Beds:
A bed is one set up and regularly maintained for use by a resident or patient, whether or not it is in use at the present time. This excludes beds used by the staff and those used exclusively for emergency services.

Resident or patient:
The terms "resident" and "patient" are used synonymously. A resident is any person who has been formally admitted to a home but not discharged. This includes a resident who is temporarily away in a hospital, visiting with friends or relatives, on vacation, or some other place, but whose bed is maintained for him in the home.

Nursing care:
Nursing care is defined as provision of any one of the services listed on Card A, List of Nursing Services, shown in Appendix IV. For the purposes of RPS-2, a person was receiving nursing care if he received at least one of the listed services during the 7 days prior to the interview in the home.

Supervisory nurse:
The person who supervises nursing care is the person in charge of the daily nursing activities provided in the home, such as the head nurse. This is not the person who employs the nursing staff (i.e., the owner or administrator), unless he also supervises the daily nursing activities of the nurses.

On duty 24 hours a day:
This means that nursing service is routinely provided at all hours of the day or night by either a nurse or nurse's aide. A person is not "on duty" if she is available to provide care only upon call or in emergencies. For example, a nurse who resides in a nursing home is not on duty while asleep even though she is available to provide nursing care.

Full-time staff physician:
This is defined as a physician (i.e., a doctor of medicine or a doctor of osteopathy) who is employed by the home for the care of the residents and who works in the establishment at least 40 hours per week.

A dentist on the premises full time:
This is defined as a dentist who is employed by the establishment and who works in the establishment at least 40 hours a week or more.

Arrangement with a physician (or dentist):
This refers to an agreement, either written or oral, between the home and a doctor relating to the care of residents of the home. This excludes any arrangements that a resident might have with his private physician or dentist.

Regular intervals:
This is defined as "once a week," "once a month," "every Friday for half a day," or any other specified periodic interval of time.

Discharge:
This term is defined as formal removal of a resident's name from the register of an establishment. A discharged person no longer occupies a bed in

the establishment, and a bed is not held for his possible return to the establishment.

Employee:
This refers to any person who works in the establishment, other than voluntary workers. Although employees are usually paid, "unpaid workers" (such as nuns) in certain types of establishments are considered employees.

Fifteen hours or more per week:
This refers to the number of hours that a person usually works in an establishment. New employees were included even though they had not worked as many as 15 hours in the establishment at the time of the interview, provided they were expected to work at least 15 hours per week. Employees on vacation, sick leave, or temporarily away for other reasons, were also included if they usually worked 15 hours or more per week.

Terms Used on the Staff Information and Control Record (HRS-3b)

Terms identifying the three job categories and other terms used on the Staff Information and Control Record are given below.

Professional:
This category includes administrators, physicians dentists, occupational and physical therapists, dietitians or nutritionists, social workers, registered professional or graduate nurses and licensed practical nurses.

Semiprofessional:
In this category are other nursing personnel such as nurse's aides, practical nurses, student nurses, and other supporting nursing staff.

Nonprofessional:
This refers to clerical and other office staff and food service personnel such as cooks and housekeeping personnel.

No attempt was made to define specific job categories, e.g., a "registered professional nurse" or a "dietitian." Instead, an item was added to the Staff Questionnaire (item 4 on HRS-3d) for the purpose of screening certain job categories that might tend to be ill-defined. For example, an entry in the box "Member—American Dietetic Association" provides a means of evaluating the level of skill possessed by a person employed as a dietitian.

Hours usually worked per week in this establishment was defined by giving examples: (1) If the employee's standard work week is 60 hours and he usually works 60 hours per week, enter 60 hours. (2) If the employee worked 60 hours last week but

he usually works 50 hours per week, enter 50 hours. (3) If the employee's standard work week is 40 hours, but he usually works 20 hours overtime, enter 60 hours.

Cash wages refers to a person's gross wages or salary, i.e., before any deductions are made for income tax, bonds, health insurance, social security, and so forth. For owners or proprietors, cash wages refers to adjusted gross income—i.e., after operating expenses have been deducted but before any deductions for taxes, bonds, and so forth.

Terms Used on the Staff Questionnaire (HRS-3d)

This questionnaire was designed to be as self-explanatory as possible since generally it was to be completed by the respondent without assistance from an interviewer. The job that the sample staff member held in the establishment was written on the form by the interviewer in the space provided for question 2, "How many years have you worked as a_____" (i.e., registered professional nurse, nurse's aide, etc.). Thus, the length of time employed does not necessarily refer to the person's total work experience in nursing homes and hospitals but to her experience in the type of work she was doing at the time of the survey.

Terms Used on the Resident Questionnaire (HRS-3c)

Date of admission:
This refers to the date the resident was last admitted to the home. If he had more than one episode of stay in the home, the reference is to the date of his most recent admission.

In bed all or most of the day:
This means that the person stays in bed most of the time because he is unable to get up (health reasons) or because he prefers to stay in bed even though he is physically able to get up (psychological reasons). A resident who is unable to get up by himself but who is routinely put in a wheelchair and is up and about most of the day is not considered as "in bed all or most of the day." If a person is confined to bed with an acute condition, such as a severe cold, but will be up and about in a few days, he was not considered as "in bed all or most of the day." However, a person recently confined to bed with a chronic condition who is likely to continue to be confined to bed for a long period of time is considered "in bed all or most of the day."

In own room all or most of the day:
This means that a person is restricted to his room for health reasons or because he prefers to stay

in his room even though he is able to move about (psychological reasons).

Going off the premises:

This means leaving the home either alone, with relatives or friends, or with a staff member to go shopping, walking, visiting with friends or relatives, and so forth. This excludes going off the premises to see a doctor or dentist.

Special aids:

Reference is made to those listed on Card C shown in Appendix IV. For a special aid to be counted in the survey, it was necessary for the sample resident to be actually using the aid.

Last time resident saw doctor:

This refers to the patient's present stay in the home for treatment, medication, or examination by a medical doctor. Seeing a doctor involves either a visit by the doctor to the home or a visit by the resident to the doctor's office for medical advice, treatment, medication, or an examination. The visit by the doctor to the establishment need not be a special visit to see the patient, but to be counted, the doctor must provide either treatment, medication, or examination. A doctor merely going over the charts or making rounds and saying, "How are you, Mrs. Jones?" does not constitute a visit.

Medication:

This includes any medicine prescribed by the doctor even though it may be a nonprescription medicine such as aspirin.

Seen by the dentist:

This refers to a visit by the dentist to the establishment to provide dental care to the patient, or a visit by the patient to the dentist's office to receive dental care, including routine dental examinations. Also included is dental care provided by a dentist employee of the establishment.

Chronic condition:

A condition is considered to be chronic if (1) it is described by the respondent as one of those listed on Card D, "List of Chronic Conditions," or Card E, "List of Selected Conditions," or (2) it is not on Card D or Care E but is recorded in the patient's medical record and reported as chronic by the respondent. (Cards D and E are reproduced in Appendix IV.)

Primarily nursing care:

This term is used in the survey in two ways. One relates to the primary type of service provided by an establishment to the majority of its residents. The classification criteria are given in Appendix III. "Primarily nursing care," as used on the Resident Questionnaire refers to primary type of care actually provided to the sample person when admitted to the establishment. "Nursing care" is defined as any one of the items 7-19 on Card F, "List of Services." (Card F is reproduced in Appendix IV.)

Primarily personal care:

This term is also used in two ways, similar to those for "primarily nursing care." "Personal care," when referring to individual patients, is the provision of any one of items 1-5 on Card F. "Primarily personal care" means that personal care was the predominant type of service provided, although minimal nursing care may also have been provided.

Room and board only:

This means that neither nursing nor personal care was provided to the resident when he was first admitted to the establishment.

Total charge for resident's care:

This term refers to the charge made "last month" by the establishment for the services that are provided to a resident. These services usually include lodging, meals, nursing care, and personal care. The charge made by the establishment includes charges for special services if such services are provided by establishment employees or by outside employees if their services are contracted for by the establishment. Excluded are charges for services that are not part of the establishment's bill, such as those provided by a patient's private physician.

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APPENDIX III

CLASSIFICATION OF HOMES BY TYPE OF SERVICE

For purposes of stratification of the universe prior to selection of the sample, the homes on the MFI were classified as nursing care, personal-care-with-nursing, personal care, or domiciliary care homes. The latter two classes were combined to produce the three types of service classes shown in table A. Details of the classification procedure in the MFI have been published.[15]

Due to the 2-year interval between the MFI survey and the RPS-2 survey, it was felt that, for producing statistics by type of service from the RPS-2 survey, the homes should be reclassified on the basis of the current data collected in the survey. This classification procedure is essentially the same as the MFI scheme. The three types of service classes delineated for RPS-2 are defined as follows:

1. A *nursing care home* is defined as one in which 50 percent or more of the residents received nursing care (see definition, Appendix II) during the week prior to the survey in the home, with an RN or LPN employed 15 hours or more per week. In this report geriatric hospitals are included with nursing care homes.

2. A *personal-care-with-nursing home* is defined as one in which either (a) over 50 percent of the residents received nursing care during the week prior to the survey, but there were no RN's or LPN's on the staff; or (b) some, but less than 50 percent, of the residents received nursing care during the week prior to the survey regardless of the presence of RN's or LPN's on the staff.

3. A *personal care home* is defined as one in which residents routinely received personal care, but no residents received nursing care during the week prior to the survey.

———— O O O ————
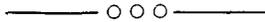
APPENDIX IV

FORMS AND QUESTIONNAIRES

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON, D.C. 20233

Dear Administrator:

The Bureau of the Census, acting as the collecting agent for the
United States Public Health Service, is conducting a nationwide survey
of nursing homes, homes for the aged, and other establishments providing
nursing, personal, and domiciliary care to the aged and infirm. The
purpose of this survey is to collect much needed statistical information
on the health of residents and on the types of employees in these homes.
This survey is part of the National Health Survey program authorized by
Congress because of the urgent need for up-to-date statistics on the
health of our people.

The purpose of this letter is to request your cooperation and to inform
you that a representative of the Bureau of the Census will visit your
establishment within the next week or so, to conduct the survey. Prior
to his visit, the Census representative will call you to arrange for a
convenient appointment time.

All the information given to the Census representative will be kept
strictly confidential by the Public Health Service and the Bureau of
the Census, and will be used for statistical purposes only.

Your cooperation in this important survey will be very much appreciated.

Sincerely yours,
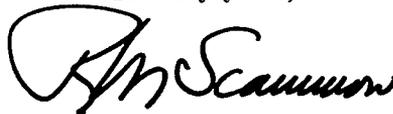
Richard M. Scammon
Director
Bureau of the Census

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS·

Dear

About a week ago the Bureau of the Census conducted a survey in the establishment in which you are employed to obtain information on the work experience and education of certain professional and semi-professional employees of the home. At that time we left a questionnaire for you to complete and return to us. According to our records, the questionnaire has not been received.

Another copy of the questionnaire is enclosed for your use if the other copy has been lost or misplaced. Please complete the questionnaire and mail it to the Bureau of the Census within 5 days. For your convenience, a self-addressed envelope which requires no postage is enclosed.

If you have already returned the original questionnaire, please disregard this reminder.

Thank you for your cooperation.

Sincerely yours,
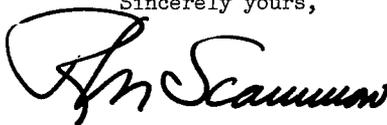
Richard M. Scammon
Director
Bureau of the Census

Enclosures

Please send completed
form to:

CONFIDENTIAL — This information is collected for the U.S. Public Health Service under authority of Public Law 652 of the 84th Congress (70 Stat. 489; 42 U.S.C. 305). All information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any other purposes (22 FR 1687).

FORM HRS-3a
(4-1-64)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE

U.S. NATIONAL HEALTH SURVEY
ESTABLISHMENT QUESTIONNAIRE

(Verify name and address and make any necessary corrections)

1. How many beds are regularly maintained for residents (patients)? (Include any beds set up for use whether or not they are in use at the present time. Exclude beds used by staff or any beds used exclusively for emergency services)	Number
2. How many residents (patients) are currently on your register as formal admissions who have not been discharged? (Do not include employees or proprietors)	Number

3. During the past 7 days how many of these — — residents (patients) received nursing care? By nursing care we mean any of the services listed on this card. (Show card A)

Number

OR ☐ None
(Go to q. 7)

4. Is the person who supervises NURSING CARE a registered professional nurse, a licensed practical nurse, or someone else?

1 ☐ Registered professional nurse   2 ☐ Licensed practical nurse   3 ☐ Someone else

5. Does she work full-time or part-time? By full-time we mean 40 or more hours a week.

1 ☐ Full-time   2 ☐ Part-time

6. Is there a nurse or nurse's aide ON DUTY 24 hours a day?

1 ☐ Yes   2 ☐ No

7a. Does this home employ a full-time staff physician for the care of the residents (patients)?

1 ☐ Yes *(Go to question 8)*   2 ☐ No

b. Does this home have an arrangement with a physician to come to the home at regular intervals for the care of the residents (patients)?

1 ☐ Yes *(Go to question 8)*   2 ☐ No

c. Does this home have an arrangement with a physician to come to the home when needed, but not at regular intervals?

1 ☐ Yes *(Go to question 8)*   2 ☐ No

d. Does this home have an arrangement with a physician to give medical care to the residents (patients) IN HIS OFFICE?

1 ☐ Yes   2 ☐ No

8a. Does this home employ a dentist on the premises full time to give dental care to the residents (patients)?

1 ☐ Yes *(Go to question 9)*   2 ☐ No

b. Does this home have an arrangement with a dentist to come to the home at regular intervals to give dental care to the residents (patients)?

1 ☐ Yes *(Go to question 9)*   2 ☐ No

c. Does this home have an arrangement with a dentist to come to the home when needed but not at regular intervals?

1 ☐ Yes *(Go to question 9)*   2 ☐ No

d. Does this home have an arrangement with a dentist to give dental care to the residents (patients) IN HIS OFFICE?

1 ☐ Yes   2 ☐ No

9. We want to know the total number of residents (patients) who were discharged during 1963--both those who were discharged to their home or some other place and those who died. First, I want to ask about those who died.

		Number
a. How many persons died during 1963 while residents (patients) in your establishment? Include those who died while **ON YOUR REGISTER** even though they were temporarily away in a hospital or some other place.		
b. Excluding deaths, how many other discharges did you have in 1963?		
Of these -- (q. 9b) -- discharges, other than deaths, how many were discharged to the following places: (1) Resident's (patient's) home or family?		
(2) Another nursing home, home for the aged, or similar establishment?		
(3) Mental hospital?		
(4) Nonmental hospital?		
(5) Other places?		
(6) Place unknown?		

	Number
10a. How many persons work in this establishment? (Include owners who work in the establishment as well as all paid employees and members of religious orders)	
b. How many of these -- (q. 10a) -- persons usually work LESS than 15 hours a week in this establishment?	

(Subtract the answer to question 10b from the answer to question 10a and insert the difference in item 10c below)

c. Now I need to list the names of the _____ employees who usually work 15 hours or more per week in this establishment.

Name of respondent(s)	Telephone number and ext.
Title or position	Date completed
Census Interviewer's name	Code

Comments

| FORM HRS-3b (4-1-64) | STAFF INFORMATION AND CONTROL RECORD | U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS | Establishment number |

		What is his job here? (Enter number from Card B)					(Ask only for sample employees)					
Line number	Employees who work 15 or more hours a week in this establishment (Enter Mr., Mrs., Miss, or Dr., first initial and last name)	"Professional" (Numbers 1 — 10) SW____ TE____ (Circle sample persons)	"Semi-professional" (Number 11) SW____ TE____ (Circle sample persons)	"Non-professional" (Numbers 12 — 15) SW____ TE____ (Circle sample persons)	Sex (Enter M for male and F for female)	How many hours does he USUAL-LY work per week in this establish-ment?	How often is he paid? (Enter code) 1 — Weekly 2 — Every 2 weeks 3 — Monthly 4 — Annually 5 — Other (Specify period)	What are his cash wages or salary per pay period before any de-ductions have been made for income tax, in-surance etc.?	In addition to his cash wages or salary per pay period, does he routinely get either room or board? If "Yes," ask: What does he get? (Enter code) 1 — Room and board 2 — Room only 3 — Board only 4 — None of these	When did he (last) start working in this establish-ment? (Enter month and year)	INTERVIEWER Fill buff Staff Questionnaire form (Form HRS-3d.) for each sample employee in columns (b) and (c) only (Check one box for each sample employee eligible for staff form)
	(a)	(b)	(c)	(d)	(e)	(g)	(g)	(h)	(i)	(j)	(k)
1										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.
2										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.
3										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.
4										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.
5										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.
6										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.
7										Month ____ Year ____	☐ Completed at time of visit ☐ Form left to be mailed in Date received in R. O.

RESIDENTS OR PATIENTS IN SAMPLE

Sample designation (a)	Name of sample resident (b)	Line No.	Sample designation (a)	Name of sample resident (b)	Line No.
		1			21
		2			22
		3			23
		4			24
		5			25
		6			26
		7			27
		8			28
		9			29
		10			30
		11			31
		12			32
		13			33
		14			34
		15			35
		16			36
		17			37
		18			38
		19			39
		20			40

FORM HRS-3C (3-23-64)   Page 2

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SAMPLING INSTRUCTIONS FOR RESIDENTS (PATIENTS)	Establishment number

The sampling instructions for the residents (patients) of this establishment are:

Start with _____

Take every _____

The first three sample designation numbers have been entered in column (a) of the worksheet on page 2. Continue to add the "Take every" number for each succeeding line until the sum exceeds the total number of patients now on the register as shown by the entry in question 2 of the Establishment Questionnaire, Form HRS-3a.

Enter the name of the sample resident (patient) in column (b) on the line opposite the sample designation number which matches the resident's position on the register.

Example: The "Start with" is 1 and the "Take every" is 2.

The numbers in column (a) on the worksheet are 1, 3, 5, 7, 9, etc. When sampling the register, you take the first patient, the third patient, the fifth patient, etc., and enter their names in column (b) on the appropriate line.

For each sample resident (patient) listed in column (b), complete a Resident (Patient) Questionnaire, Form HRS-3c, contained in booklet form:

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Establishment number	Resident's (patient's) line No.

	Month	Year
1. What is the month and year of this resident's (patient's) birth?		

2. Sex   1 ☐ Male *(Ask question 3)*   2 ☐ Female *(Go to question 4)*

3a. Has he served in the Armed Forces of the United States? 1 ☐ Yes *(Ask Q. 3b)* 2 ☐ No *(Go to Q. 4)* 3 ☐ Unknown	**3c. NOTE TO INTERVIEWER:** *Source of veteran status information*
b. Did he serve in World War I? 1 ☐ Yes 2 ☐ No 3 ☐ Unknown	1 ☐ Record 2 ☐ Sample person 3 ☐ Respondent

4. Is this resident (patient) married, widowed, divorced, separated, or never married?

1 ☐ Married   3 ☐ Divorced   5 ☐ Never married
2 ☐ Widowed   4 ☐ Separated

	Month	Year
5. In what month and year was he (last) admitted to this home?		

6. With whom did he live at the time of his admission?
(Check the FIRST box that applies)

1 ☐ Spouse only
2 ☐ Children only
3 ☐ Spouse and children
4 ☐ Relatives other than spouse or children
5 ☐ Lived in apartment or own home — alone or with unrelated persons
6 ☐ In boarding home

7 ☐ In another nursing home or related facility
8 ☐ In mental hospital
9 ☐ In a long-term specialty hospital (except mental)
10 ☐ In a general or short-stay hospital
11 ☐ Other place *(Specify)*

7. How often do friends or relatives visit him?
(Check the FIRST box that applies)

1 ☐ At least once a week
2 ☐ Less often than once a week but at least once a month
3 ☐ Less than once a month
4 ☐ Never

8a. Does he stay in bed all or most of the day?   1 ☐ Yes *(Go to question 9)*   2 ☐ No *(Ask question 8b)*

b. Does he stay in his own room all or most of the day?   1 ☐ Yes   2 ☐ No *(Ask question 8c)*

c. Does he go off the premises just to walk, shop, or visit with friends or relatives and so forth?   1 ☐ Yes   2 ☐ No

9. Which of these special aids does this resident (patient) use? *(Show card C)*   *(Check all that apply)*

1 ☐ Hearing aid   4 ☐ Braces   7 ☐ Eye glasses
2 ☐ Walker   5 ☐ Wheel chair   OR
3 ☐ Crutches   6 ☐ Artificial limb(s)   8 ☐ None of these aids used

10. During his stay here when did he last see a doctor for treatment, medication, or for an examination by the doctor?	Month	Year	☐ Never saw doctor while here

11a. During his stay here, has he seen a dentist?   1 ☐ Yes *(Ask question 11b)*   2 ☐ No *(Go to question 12)*

	Month	Year
b. When was the last time he saw a dentist?		

12a. Has he lost ALL of his teeth?   1 ☐ Yes *(Ask question 12b)*   2 ☐ No *(Go to question 13)*

b. Does he wear full upper and lower dentures?   3 ☐ Yes   4 ☐ No

13. Does this resident (patient) have any of these conditions?
(Show card D. Record in Table 1 each condition which the patient has)   1 ☐ Yes   2 ☐ No

14. Does he have any of these conditions?
(Show card E. Record in Table 1 each condition which the patient has)   1 ☐ Yes   2 ☐ No

15a. Does he have any other CHRONIC conditions listed in his record that you have not told me about?   1 ☐ Yes   2 ☐ No

If "Yes," ask:

b. What are they?
(Record in Table 1 each chronic condition mentioned)

FORM HRS-3C (3-23-64)

Table 1		
Enter conditions from questions 13, 14 or 15	For the following conditions ask these questions	
Enter the words used by the respondent to describe the condition.	ILL EFFECTS OF STROKE. . . . . What are the present ill effects? SPEECH DEFECT . . . . What caused the speech defect? PARALYSIS, PERMANENT STIFFNESS . . . . What part of the body is affected? TUMOR, CYST, OR GROWTH . . . . What part of the body is affected? Is it malignant or benign? DEAFNESS, HEARING TROUBLE, OR ANY EYE CONDITION. . . . . . Is one or both ears (eyes) *(Include glaucoma and cataracts)* affected?	Do not write in this column
(a)	(b)	(c)
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

16. If any eye conditions have been recorded in Table 1, ask: ☐ No eye condition reported *(Go to question 17)*

You told me about this resident's (patient's) eye condition.
Can he see well enough to read ordinary newspaper print with glasses? 1 ☐ Yes 2 ☐ No

17. During the past 7 days which of these services did this resident (patient) receive?

(Show card F and check each one mentioned)

1 ☐ Help with dressing, shaving, or care of hair
2 ☐ Help with tub bath or shower
3 ☐ Help with eating (feeding the resident(patient))
4 ☐ Rub and massage
5 ☐ Administration of medications or treatment
6 ☐ Special diet
7 ☐ Application of sterile dressings or bandages

8 ☐ Temperature--pulse-- respiration
9 ☐ Full-bed bath
10 ☐ Enema
11 ☐ Catheterization
12 ☐ Bowel and bladder retraining
13 ☐ Blood pressure
14 ☐ Irrigation
15 ☐ Oxygen therapy
16 ☐ Hypodermic injection

17 ☐ Intravenous injection
18 ☐ Intramuscular injection
19 ☐ Nasal feeding

OR

20 ☐ None of the above services received

18. At the time this resident (patient) was admitted to this home, what kind of care did he receive—primarily nursing care, primarily personal care, or room and board only? *(Check one box only)*

1 ☐ Primarily nursing care   2 ☐ Primarily personal care   3 ☐ Room and board only

19. What was the TOTAL charge for this resident's (patient's) care last month?

Amount
$

20a. What is the PRIMARY source of payment for his care? *(Check ONE box only)*

1 ☐ Own income or family support *(Include private plans, retirement funds, social security, etc.)*
2 ☐ Church support
3 ☐ Veterans benefits
4 ☐ Public assistance or welfare
5 ☐ Initial payment — life care
6 ☐ Other *(Please describe)*

20b. Are there any additional sources of payment? *(Check ALL boxes that apply)*

1 ☐ Own income or family support *(Include private plans, retirement funds, social security, etc.)*
2 ☐ Church support
3 ☐ Veterans benefits
4 ☐ Public assistance or welfare
5 ☐ Initial payment — life care
6 ☐ Other *(Please describe)*

OR

7 ☐ No additional sources

USCOMM-DC 24499-P64

FORM HRS-3d
(3-31-64)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE

U.S. NATIONAL HEALTH SURVEY

STAFF QUESTIONNAIRE

CONFIDENTIAL – This information is collected for the U.S. Public Health Service under authority of Public Law 652 of the 84th Congress (70 Stat. 489; 42 U.S.C. 305). All information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any other purposes (22 FR 1687).

a. Establishment number	b. Line number

c. Name of person who should fill this form

The U.S. National Health Survey of the Public Health Service is conducting a nationwide survey in nursing homes, homes for the aged, and other related types of establishments. The purpose of the survey is to obtain certain information about the staff employed in these establishments as well as about the health of patients or residents in the establishments.

Please answer the questions on this questionnaire. When you have completed it, mail it to the Bureau of the Census in the postage-free, self-addressed envelope provided.

Since it takes only a few minutes to complete the questionnaire, we would very much appreciate it if you will complete and mail the form within the next 5 days.

Your answers will be given confidential treatment by the U.S. National Health Survey and the Bureau of the Census. The information will be used for statistical purposes only, and will be presented in such a manner that no individual person or establishment can be identified.

Thank you for your cooperation.

	Age

1. How old were you on your last birthday? . . . .

2. How many years have you worked as a _____ – –

Number of –

a – – **in this establishment?** . . . . *Years* and *months*

b – – **in other nursing homes, homes for the aged, or related facilities?** *Years* and *months*

c – – **in hospitals?** . . . . *Years* and *months*

(If your present job is in a hospital, do not include the experience shown in question 2a.)

NOTE TO NURSES: Do not include special duty or private duty nursing.

---

3. What is the highest grade you COMPLETED in school?

(Circle the highest grade completed)

1 Elementary school . . . 1 2 3 4 5 6 7 8
(Grade school)

2 High school. 1 2 3 4

3 College . . . . 1 2 3 4 5+

---

4. Which, if any, of the following degrees, diplomas, or licenses do you have?

(Check all boxes that apply)

1 ☐ Registered professional nurse (R.N.)

2 ☐ Licensed practical nurse (L.P.N.)

3 ☐ Degree in home economics

4 ☐ Member – American Dietetic Association

5 ☐ Registered occupational therapist

6 ☐ Registered physical therapist

7 ☐ Doctor of Dental Surgery or Dental Medicine (D.D.S. or D.M.D.)

8 ☐ Physician (M.D. or D.O.)

9 ☐ Master of Social Welfare (M.S.W.)

10 ☐ Other *(Please specify)*

_____

_____

OR

11 ☐ None of the above

Continue on reverse side   USCOMM-DC 24510-P64

5. Have you taken any of the courses listed below?

☐ˑYes ☐ No

For each course that you have taken, please indicate by checking the appropriate column, whether the course was "accredited under college or university sponsorship" or whether it was a "short course, institute, or workshop."

Line No.	Types of courses (a)	Accredited course under college or university sponsorship (b)	Short course, institute or workshop (c)
1	Nursing home administration		
2	Nursing care of the aged or chronically ill		
3	Medical or dental care of the aged or chronically ill		
4	Mental or social problems of the aged or chronically ill		
5	Physical therapy or rehabilitation		
6	Occupational therapy		
7	Nutrition or food services		

Comments

```
┌─────────────────────────────────────────┐   ┌─────────────────────────────────────────┐
│                            Card A        │   │                            Card B        │
│       LIST OF NURSING SERVICES           │   │     LIST OF SELECTED JOB CATEGORIES      │
│                                          │   │ WHICH OF THE FOLLOWING JOB CATEGORIES BEST│
│  1. Temperature—pulse—respiration        │   │ FITS THE JOB WHICH THIS EMPLOYEE DOES IN THIS│
│                                          │   │ ESTABLISHMENT?                           │
│  2. Full bed bath                        │   │   1.  Administrator                      │
│                                          │   │                                          │
│  3. Application of sterile dressings or  │   │   2.  Physician (M.D. or D.O.)           │
│     bandages                             │   │                                          │
│                                          │   │   3.  Dentist                            │
│  4. Catheterization                      │   │                                          │
│                                          │   │   4.  Occupational Therapist             │
│  5. Bowel and bladder retraining         │   │                                          │
│                                          │   │   5.  Physical Therapist                 │
│  6. Blood pressure                       │   │                                          │
│                                          │   │   6.  Dietitian or Nutritionist          │
│  7. Hypodermic injection                 │   │                                          │
└──────────────────────────────────────────┘   │   7.  Social Worker                      │
```

LIST OF NURSING SERVICES — Card A

1. Temperature—pulse—respiration
2. Full bed bath
3. Application of sterile dressings or bandages
4. Catheterization
5. Bowel and bladder retraining
6. Blood pressure
7. Hypodermic injection
8. Intravenous injection
9. Intramuscular injection
10. Nasal feeding
11. Irrigation
12. Oxygen therapy
13. Enema

LIST OF SELECTED JOB CATEGORIES — Card B

WHICH OF THE FOLLOWING JOB CATEGORIES BEST FITS THE JOB WHICH THIS EMPLOYEE DOES IN THIS ESTABLISHMENT?

1. Administrator
2. Physician (M.D. or D.O.)
3. Dentist
4. Occupational Therapist
5. Physical Therapist
6. Dietitian or Nutritionist
7. Social Worker
8. Registered Professional Nurse
9. Graduate Nurse, but not registered
10. Licensed Practical Nurse
11. Other nursing personnel (include, (a) practical nurse, (b) nurse's aide, (c) student nurse, and (d) other supporting nursing staff)
12. Orderly
13. Clerical, bookkeeping, or other office staff
14. Food service personnel (cook, kitchen help, etc.)
15. Housekeeping personnel (maid, maintenance man, etc.)
16. Job other than those listed above (Please describe employee's duties)

SPECIAL AIDS — Card C

1. Hearing aid
2. Walker
3. Crutches
4. Braces
5. Wheel chair
6. Artificial limb
7. Eyeglasses

```
                                    Card D                          Card E
         LIST OF CHRONIC CONDITIONS                     LIST OF SELECTED CONDITIONS

    Does this resident have any of these conditions?    Does this resident have any of these conditions?

    1. Asthma                                           1. Deafness or SERIOUS trouble hearing
    2. CHRONIC bronchitis                                  with one or both ears
    3. REPEATED attacks of sinus trouble                2. SERIOUS trouble seeing with one or
                                                           both eyes even when wearing glasses
    4. Hardening of the arteries                        3. Any speech defect
    5. High blood pressure                              4. Missing fingers, hand, or arm--toes,
                                                           foot, or leg
    6. Heart trouble                                    5. Palsy
    7. Ill effects of a stroke                          6. Paralysis of any kind
    8. TROUBLE with varicose veins                      7. Any CHRONIC trouble with back or spine
    9. Hemorrhoids or piles                             8. PERMANENT stiffness or any deformity
   10. Tumor, cyst or growth                               of the foot, leg, fingers, arm, or back

   11. CHRONIC gall bladder or liver trouble
   12. Stomach ulcer
   13. Any other CHRONIC stomach trouble
   14. Bowel or lower intestinal disorders                                           Card F
   15. Kidney stones or CHRONIC kidney trouble                   LIST OF SERVICES

   16. Mental illness                                    1. Help with dressing, shaving, or care of
   17. CHRONIC nervous trouble                              hair
   18. Mental retardation                                2. Help with tub bath or shower
   19. Arthritis or rheumatism
   20. Diabetes                                          3. Help with eating (feeding the patient)

   21. Thyroid trouble or goiter                         4. Rub and massage
   22. Epilepsy                                          5. Administration of medications or treatment
   23. Hernia or rupture                                 6. Special diet
   24. Prostate trouble
   25. ADVANCED senility                                 7. Application of sterile dressings or
                                                            bandages

                                                         8. Temperature—pulse—respiration

                                                         9. Full bed bath

                                                        10. Enema

                                                        11. Catheterization

                                                        12. Bowel and bladder retraining

                                                        13. Blood pressure

                                                        14. Irrigation

                                                        15. Oxygen therapy

                                                        16. Hypodermic injection

                                                        17. Intravenous injection

                                                        18. Intramuscular injection

                                                        19. Nasal feeding
```

—————O O O—————

INTERVIEWER CHECK LIST

Make the following checks on the appropriate RPS-2 questionnaires for each establishment *before* you leave the establishment. Place a check mark ☑ in the box to the right of each check item after making the specified check and determining that the item is correct.

If the item is not correct, make any necessary corrections by talking to the administrator, resampling, or any other procedure which the item requires. After correcting the item, make a check mark in the box after the item.

A completed check list is required for each establishment.

Establishment Number

Form HRS-3a

1. Question 9—The sum of the entries in questions 9b (1)-9b(6) is equal to the entry in question 9b.   ☐

2. Question 10—The entry in question 10c is the difference between the number in question 10b subtracted from the number in question 10a. (The number in question 10c cannot be larger than the entry in 10a.)   ☐

Form HRS-3b

3. The number of employees listed on Form HRS-3b is the same as the number entered in question 10c of Form HRS-3a.   ☐

4. Columns (b), (c), and (d)—A job category number is entered in one of columns (b), (c), or (d) for each employee listed.   ☐

5. Column (c)—Each employee with an entry of "11" in column (c) has a letter suffix, e.g. (11A). If the entry is 11D, the job description is given in a footnote.   ☐

6. The sample selection in columns (b), (c), and (d) is correct. (Look at the "Start with" and "Take every" numbers on page 3 for each column and review your selection.)   ☐

7. Columns (e) through (j) are completed for each sample employee in columns (b) - (d).   ☐

8. Column (k)—A Staff Questionnaire has been "completed at the time of visit" or "left to be mailed in" for each sample employee in columns (b) and (c) only.   ☐

Form HRS-3c

9. The number of sample residents (patients) is correct using this procedure:

   a. Enter the number of residents (patients) shown in question 2 of the HRS-3a.

      Example

      202

   b. Subtract the "Start with" number

   $$\frac{-\ 9}{193}$$

   c. Divide the difference by the "Take every" number (whole numbers only)

   $$15)\overline{193}\quad \frac{12}{}$$

   d. Add "1" to the quotient obtained above. This is the number of sample patients which should be entered in page 2.   12+1=13

   13 sample residents (patients) should be listed.

   Example: In the example above the number of residents (patients) in q. 2 of the HRS-3a is 202. The "Start with" is 9 and the "Take every" is 15.   ☐

Form HRS-3d

10. Each Staff Questionnaire "completed at the time of visit" has been reviewed for omissions (age, job experience, etc. and the back of the questionnaire).   ☐

11. Each Staff Questionnaire has only one job category description in question 2.   ☐

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