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VITAL and HEALTH STATISTICS

DATA EVALUATION AND METHODS RESEARCH

Participation of Hospitals in the Pilot Study of the Hospital Discharge Survey

Evaluation of the willingness of short-stay hospitals to participate in a continuing patient-oriented survey.

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PREFACE

The National Health Survey collects data on the health of the population in three different ways: (1) by household interview techniques; (2) by direct examination; and (3) by abstracting information from existing records.

In connection with the latter method, a contract was made with the Graduate School of Public Health, University of Pittsburgh, to explore the feasibility of conducting a national patient-oriented survey in short-stay hospitals. In fiscal year 1965 the Hospital Discharge Survey was inaugurated with a large-scale pilot study by the National Center for Health Statistics in cooperation with the Bureau of the Census and the University of Pittsburgh Graduate School of Public Health. As part of a contract with the Center, the University of Pittsburgh has evaluated the willingness of hospitals to participate in a continuing survey.

Milton C. Rossoff, Chief, Hospital Discharge Survey Branch, Division of Health Records Statistics, edited the report for publication.

CONTENTS

IN THIS REPORT—which relates to a national continuing survey of patients in short-stay hospitals—findings, conclusions, and recommendations are made concerning two studies.

A study conducted in fiscal year 1964 investigated the feasibility of conducting a Hospital Discharge Survey and concluded that such a survey was practicable and would be well received by the hospitals falling into the sample.

The Hospital Discharge Survey commenced in fiscal year 1965 as a pilot study with the intent of testing various procedures in 84 hospitals, involving personnel, forms, and suitability of quality checks. Only 2 of the 84 hospitals which were asked to participate in the pilot study failed to do so. Unreserved cooperation was obtained from 74 of the hospitals, and qualified cooperation was received from the remaining 8 participating hospitals.

The appendixes contain many of the forms used in the feasibility study and in the pilot study.

SYMBOLS

Data not available	---
Category not applicable	...
Quantity zero	-
Quantity more than 0 but less than 0.05	0.0
Figure does not meet standards of reliability or precision	*

PARTICIPATION OF HOSPITALS IN THE PILOT STUDY OF THE HOSPITAL DISCHARGE SURVEY

The report was prepared by Ann M. Brown, A. B.; Isidore Altman, Ph.D., Professor of Medical Care Statistics; and Donovan J. Thompson, Ph.D., Professor of Biometry, Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh. The findings, conclusions, and recommendations are those of the authors.

INTRODUCTION

In the summer of 1964 the National Center for Health Statistics of the U.S. Public Health Service inaugurated the Hospital Discharge Survey, a continuing study designed to provide comprehensive general-purpose statistics on morbidity in patients discharged from the Nation's short-term hospitals. The authority for the survey is derived from the National Health Survey Act of 1956 (Public Law 652—84th Congress), which authorizes the Public Health Service to conduct continuing surveys on the health of the Nation's people and to develop and test new methods for gathering such information.[1,2] The survey has the endorsement of the American Hospital Association.

The principal source of information for the survey is the medical record in the hospital, or more precisely, for the time being, the face or summary sheet of the medical record. The data are to be obtained from probability samples of medical records abstracted in a sample of the Nation's general hospitals. They will provide useful information on length of stay, diagnosis, and operative procedures for the general population classified according to such demographic characteristics as age, sex, color, and marital status.

The Hospital Discharge Survey is one part of a comprehensive National Health Survey[3] composed of three basic programs: the Health Interview Survey,[4] the Health Examination Survey, [5] and the Health Records Survey. The Health Records Survey, which includes the Hospital Discharge Survey, is actually a family of surveys designed to gather and publish statistics from facilities which provide medical care; it is under the direction of the Division of Health Records Statistics.

One of the early projects of this division was the compilation of the most complete listing yet available of the Nation's hospitals and resident institutions providing medical, nursing, personal, or custodial care. This Master Facility Inventory,[6] as it is called, functions dually by serving as a sampling frame for the various health records surveys and by providing statistics on the numbers and characteristics of these establishments. Every effort is made to keep this inventory up to date.

THE FEASIBILITY STUDY

INTRODUCTION

A great deal of exploratory work and careful planning must necessarily precede a national undertaking such as the Hospital Discharge Survey. More than a year before the survey itself was initiated, and as part of this planning, the Graduate School of Public Health of the University of Pittsburgh undertook a study, by contract with the National Center for Health Statistics

of the Public Health Service, to examine the feasibility of sampling hospital medical records in order to collect statistics on morbidity in hospitalized patients. A report on this study, "Study of Feasibility of Sampling Hospital Discharge Records," has been made to the Division of Health Records Statistics. This section is a summary of that report.

Forty-five purposively selected hospitals throughout the United States were visited to obtain information about the following: the circumstances under which hospitals would be willing to cooperate in a national discharge survey; the questions they would ask; whose permission would be needed; the problems that would be encountered in translating records of discharges into

Table 1. Distribution of hospitals visited in the 1963 feasibility study, by geographic region, type of control, and bed capacity:[1] United States

Type of control and bed capacity[2]	Geographic region				
	All regions	North-east	North Central	South	West
All hospitals					
All bed capacities	45	14	9	12	10
Under 100 beds	17	5	3	8	1
100-199 beds	12	3	3	2	4
200-299 beds	6	2	-	1	3
300 beds or more	10	4	3	1	2
Government					
All bed capacities	9	3	2	3	1
Under 100 beds	1	-	-	1	-
100-199 beds	2	2	-	-	-
200-299 beds	2	-	-	1	1
300 beds or more	4	1	2	1	-
Nonprofit					
All bed capacities	29	11	7	5	6
Under 100 beds	11	5	3	3	-
100-199 beds	8	1	3	2	2
200-299 beds	4	2	-	-	2
300 beds or more	6	3	1	-	2
Proprietary					
All bed capacities	7	-	-	4	3
Under 100 beds	5	-	-	4	1
100-199 beds	2	-	-	-	2
200-299 beds	-	-	-	-	-
300 beds or more	-	-	-	-	-

[1]Data relate to the year ending September 30, 1962.

[2]Exclusive of bassinets for newborn infants.

a sampling frame; the maximum information which would be uniformly available in all hospitals; and the methods most appropriate for extracting the desired information from the medical records. Emphasis was on the problems that might arise in connection with securing cooperation.

The study of these 45 hospitals in 1963-64 will be referred to as the feasibility study; the activities to be described for the succeeding year, 1964-65, will be referred to as the pilot study.

The feasibility study procedure involved, as a rule, separate interviews with the hospital administrators and their medical record librarians, the selection of a small sample of the medical records of discharged patients, and the abstracting of certain information from these records. The interview with the administrator dealt primarily with elements of cooperation, whereas the medical record librarian was interviewed mainly about the record keeping system in relation to establishing a procedure within the hospital for the regular, periodic collection of information from a sample of the medical records.

HOSPITALS VISITED

All but 2 of the 45 hospitals visited in the 1963 feasibility study were general hospitals. The two exceptions were a small eye, ear, nose, and throat hospital and a short-term psychiatric hospital. The characteristics of the 45 hospitals are presented in table 1. As may be seen from the table, nearly two-thirds of the hospitals were nonprofit, and the remainder were nearly evenly divided between government and proprietary hospitals. Of the nine government hospitals, one was federally operated and the others were run by State or local governments. Approximately one-third of the nonprofit hospitals were church operated.

Most of the hospitals ranged in size from 30 to 700 beds, but a few had well over 1,000 beds. In general, the government hospitals were the largest and the proprietary hospitals were the smallest. The feasibility study hospitals were larger on the average than U.S. short-term hospitals, but the distribution of the study's hospitals by type of control was much like that of the Nation's hospitals. A disproportionately large number of Northeastern hospitals were included in the study. Because this particular study was not concerned with obtaining actual data but was a beginning study to learn about hospital procedures, the cooperation that might be anticipated, and the like, a national probability sample was not felt to be necessary.

PROCEDURE

The administrators of the 45 hospitals to be visited were first notified of the study by a letter from the Graduate School of Public Health explaining its purpose and procedure and requesting cooperation in the study (exhibit A). About 1 week later the letter was followed by a telephone call in which the university representative requested an appointment to visit the hospital. Two administrators among the original 45 who were contacted failed to cooperate even to this extent, and their hospitals were replaced by others in the same cities. Both "alternate" hospitals readily agreed to participate.

At nearly all of the hospitals visited, the administrators and their medical record librarians were most cooperative and helpful. They gave considered replies to the questions asked, and the medical record librarians often went to considerable effort to locate records which the interviewer requested. Unpleasant experiences were surprisingly few, in view of the fact that many of the medical record departments gave evidence of being overcrowded, understaffed, and burdened with work.

At only four hospitals was the university representative refused access to a sample of medical records once the interviews had taken place. At least one of the refusals was based on a question of legality; the administrator stated that he had been advised by the local hospital council not to participate because of the possibility of law suits. Another refusal probably stemmed more from embarrassment about the disorganized state of the hospital's medical rec-

ords than from concern about confidentiality. At a third hospital the refusal came from a generally uncooperative medical record librarian who was interviewed before the administrator. Although the issue was not reopened, the interviewer felt certain that the administrator would have let him abstract records had the administrator been talked to first. A small proprietary hospital was unwilling to let its records be seen but said it would participate in the event of a national survey.

FINDINGS

This section summarizes the 1963-64 feasibility study findings and presents the recommendations made at the conclusion of the study. No attempt has been made to modify the recommendations, though modifications might have been indicated by the 1964-65 pilot study experience, which is described in subsequent sections.

The feasibility study showed that for the elements it covered, a hospital discharge survey of national scope is clearly practicable. Cooperation of hospitals falling into the survey sample can be anticipated, with very few exceptions, provided the survey is tailored to the hospital's problems of personnel and space and to the hospital's reasonable wishes about the mode of abstracting information from the medical records. The majority of the administrators interviewed indicated that there would be no question about their willingness to participate in a national hospital discharge survey. Some replied that participation would depend on such practical considerations as time, expense, and personnel limitations.

A few administrators expressed concern about confidentiality and legality, but their fears seemed for the most part to be allayed upon reassurance about the maintenance of confidentiality. The administrators were in general agreement that legal objections would be unlikely if patients' names were not abstracted. However, two administrators suggested that individual patient authorization might be required before records could be looked at for statistical purposes, even though names were not to be copied. The name, they said, would still be there for the abstractor to see. On the other hand, the administrator of one large hospital explained that although the consent of the patient may be technically required by law, it can usually be omitted when a responsible agency is conducting the research. This would appear to be the general feeling among administrators.

Ready willingness to participate in a discharge survey seemed to be positively associated with hospital size; that is, the administrators of the larger hospitals seemed more receptive to the survey than those of the smaller hospitals. One likely reason is that larger hospitals receive more requests of this nature and are accustomed to research endeavors. The small hospitals, receiving fewer or no requests, would have little experience on which to base an immediate decision. By type of control, the government hospitals, which were the largest visited, seemed to be the most willing to participate, and the proprietary hospitals, which were the smallest visited, seemed to be the least willing.

The initial request for participation in the survey should be directed to the administrator, who may approve it himself or refer it to someone else. At half the hospitals visited, the administrator said that his approval would be sufficient, but at the other hospitals the administrator said he would have to seek the approval of at least one other person or group of persons such as the medical staff or the board of trustees. Some administrators said they would clear the request with a legal advisor even though no legal objections were anticipated. Authority to approve requests of this nature was more likely to rest solely with the administrator in the larger hospitals, whereas consultation with a second party was more likely to be required at the smaller hospitals.

The time required for obtaining cooperation will depend partly on who is to make the decision. If the authority is the administrator's alone, a speedier decision should result than if several people have to be consulted. It seems likely that when the board of trustees must be contacted, more time will be required, particularly if the request must be held until a regularly scheduled board meeting.

Before any hospital is approached about the survey, the endorsement of the American Hospital Association and similar organizations such

as the State hospital association should be obtained and publicized. The local hospital council should also be informed of the survey, perhaps by the American Hospital Association, and encouraged to lend its support. As some administrators hinted, such support could mean the difference between cooperation and refusal.

It is also recommended that a strong statement on the value of the survey be sent to each hospital selected and that a representative of the National Center for Health Statistics visit each hospital to explain the survey personally and secure cooperation. Although there are no indications that legal problems will present serious difficulty for the survey, it might be advisable to review the various State laws and regulations (where such exist) governing the release of medical records for statistical purposes. Should a question be raised, the position of the person who visits the hospital to explain the survey will be stronger if he is informed about the relevant laws and their interpretation.

While some hospitals indicated they might be willing to collaborate in the survey without reimbursement, it was clear that most would expect some compensation for their contribution, especially where it was felt that overtime or the employment of additional personnel might be required. The tentative form shown to the administrator (exhibit B) was quite detailed and implied a fairly exhaustive review of the medical record. It contained questions on the characteristics of the patient and his hospitalization, including final diagnoses, operations, complications, laboratory tests, therapies, and the like.

There were some differences about whether payment should be made to the hospital or to the personnel doing the work, but most administrators favored payment to the hospital. It is recommended that a uniform policy be adopted for the compensation of hospitals and that fair payment, based on further examination of the true cost to the hospitals, be made. Establishing a working relation between the Federal government and the individual hospital is not a simple process, especially where transfer of funds is involved. Contracts will have to be made (at which some hospitals might conceivably balk), the status of the persons doing the abstracting defined, and so forth.

Administrative opinions as to who should do the abstracting ranged from a strong preference for utilizing hospital personnel to an equally strong preference for having someone sent in to do the work. Any reasonable procedure for abstracting records that the National Center for Health Statistics decided to adopt could probably be made to work.

Generally the administrators indicated they would be willing to have an employee of a survey organization come to the hospital periodically to select a sample of discharges and abstract information from records, provided the work was carried out in an ethical manner by properly trained personnel. In favor of having the sampling and abstracting done by representatives of the National Center for Health Statistics rather than by the medical record librarians is the fact that representatives' training and performance could be closely controlled by the Center. Also, the abstractor's first responsibility would be to the survey, rather than to the hospital. The survey would naturally be of secondary importance to the medical record librarian, who might not always be able to direct his or her best efforts toward it. (However, greater training and experience might more than compensate for any lack of enthusiasm or time.)

Contraindicating the use of abstractors with no medical record training would be their lack of familiarity with medical terminology; such familiarity is a great aid in making out the handwriting of the physicians. If the work is to be done by persons without experience in the medical field, special instruction in medical terminology might be included in the training program. Such instructions might also prove advantageous even if hospital personnel do the abstracting, because not all hospitals have well-trained persons handling their records. It was not unusual to find a clerk responsible for the records at smaller hospitals.

The majority of administrators said that hospital personnel could be made available for abstracting records; yet, the majority of the medical record librarians indicated they could not handle an added assignment without overtime or additional help. Certainly many did not appear to welcome the idea of another assignment.

Aside from the obvious advantages of having the abstracting done by persons familiar with the records and the doctors' handwriting, the utilization of medical record personnel could result in improved medical records as the survey progresses. Because of training and experience with the particular hospital's records, the medical record librarian is in a far better position than an outsider would be to handle abstracting problems when they arise and to encourage physicians to complete records. If medical record personnel are to do the sampling and abstracting, a representative of the National Center for Health Statistics could instruct them initially and then call periodically to review their work, which would be edited for completeness on a continuing basis.

A question as to whether records would be abstracted on a daily basis, before the records were filed away, or at monthly intervals was raised by a number of administrators and medical record librarians. Those who mentioned this point clearly favored the former alternative. The monthly procedure, they said, meant that charts would have to be pulled and refiled and the record room routine disrupted.

The importance of cordial relationships with the administrator and, especially, with the medical record librarian cannot be overstressed. The success of the entire venture depends on the latter's cooperativeness, willingness to devote time and effort, and motivation for completeness and accuracy. Good will is a *sine qua non.* To the maximum extent possible, the procedures for sampling the records and abstracting data from them should be in line with the customs and practices already being observed in the hospital and with the wishes of the administrator and the medical record librarian. Unless the decision is made to follow a single procedure in all hospitals, it is recommended that the choice as to whether the abstracting be done by hospital personnel or by an outsider, presumably well-trained, should be the hospital's.

Some lag occurs between the patient's date of discharge and the date the medical record is completed. The amount of time an outside abstractor should wait before seeking to abstract records from a particular month's discharges was not determined, but obviously the time which is optimal for one hospital may not be so for another. Nevertheless, the experience indicated that 3 months would probably be an adequate period in most hospitals. It is recommended that the sample for month X (January, for example) be selected in month X + 2 (March) and abstracted in month X + 3 (April). This procedure should allow the medical record librarian sufficient time to locate and review the sample charts for completeness. No matter how long an interval is established or what kind of procedure is employed there will inevitably be some charts which cannot be located or made available for abstracting at the prescribed time. Under these circumstances the medical record librarian might be asked to complete and mail abstracts for the missing records as soon as they become available, to avoid unnecessary delay in processing the monthly data. An alternative would be to have the charts put aside to be abstracted with the next month's records. Whatever policy is deemed advisable, an instruction covering the situation should be prepared.

The discharge rosters observed in the hospitals visited consisted usually of simple straightforward lists of the discharges on a day-by-day basis. The order in which discharged patients were listed varied from hospital to hospital. The four principal ways of listing were by record number, alphabet, room number, and time of day. If a simple systematic sample of every kth discharge is to be drawn, this can be accomplished readily in most hospitals. On the other hand, if any within-hospital control on age, hospital service, or other variable is contemplated, many hospitals may have to be asked to develop a discharge roster tailored specifically to the needs of the survey. To insure the maintenance of the desired within-hospital sampling rate and overall control, a discharge roster specifically designed for the purposes of the Hospital Discharge Survey may have to be developed for at least some of any sample of hospitals. Small hospitals may not have a discharge list, but a suitable form can easily be designed for them.

The several items of information called for on the abstract form which was tested (exhibit B) were extracted from the hospitals' medical records with varying degrees of success. Because of the importance of establishing mutually satis-

factory relationships with each hospital from the very start, data collection should at first be simple. It is recommended that data collection be limited, at least initially, to information generally available on the medical record face sheets—admission and discharge dates, date of birth (or age, if birth date is not available), color, sex, marital status, final diagnoses, and operations. Expansion to items within the record, which present greater difficulties, can come after collection of data from the face sheet has become systematized. Variations in record forms and recording practices for newborn infants suggest that the newborn had best be excluded from the study, at least at first.

The medical record face sheets were found to be eminently suitable for fairly speedy abstracting, especially where the diagnoses and operations were typed rather than written in longhand. Thought should be given to possibilities of "automating" the abstracting procedures to the extent practicable. Marked-sense or other devices might be tried in hospitals which are willing to experiment in this fashion.

SUMMARY OF RECOMMENDATIONS

To summarize, the more important recommendations and suggestions coming out of this feasibility study were as follows:

1. Endorsement by the American Hospital Association and State and local hospital groups would be influential in obtaining a hospital's cooperation. Personal visits by representatives of the National Center for Health Statistics to describe the Hospital Discharge Survey would be helpful, as would a statement about the uses of the survey.
2. Payment to the hospitals should be on a uniform basis calculated ultimately on true cost to the hospitals.
3. Contractual arrangements would seem to be necessary to formalize procedures; the matter appeared to be generally acceptable.
4. It was found that a lag in time often occurred between discharge of the patient and completion of the medical record. This is an important factor to be considered in establishing procedures for the abstracting of medical records.
5. The procedures for collection of data should be simple and, at least in the early stages of the Hospital Discharge Survey, limited to the summary or face sheet of the medical record. Newborn infants might at first be excluded.
6. Because of the fairly high degree of uniformity noted in the style of the summary sheet employed in hospitals and because of their relative simplicity, techniques of mechanical processing should be tried out.
7. The choice as to whether the abstracting is to be done by hospital or by government personnel should be the hospital's. (Note: In the subsequent pilot study, which is described next, the hospitals were assigned one procedure or the other. Therefore, further trial of this recommendation could not be made.)
8. Finally and most important, the feasibility study showed that a hospital discharge survey of national scope was practicable and would be well received by the hospitals falling into the sample.

PILOT STUDY METHODOLOGY

To some extent on the encouragement gained from the feasibility study findings, which have just been described, the Division of Health Records Statistics of the National Center for Health Statistics undertook a pilot study during the 1964-65 fiscal year to pretest procedures for the Hospital Discharge Survey. In designing and conducting the study, the National Center for Health Statistics received assistance from both the U.S. Bureau of the Census and the Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh. The details of this study will be reported elsewhere. The emphasis in the present report is on the cooperation and the man-

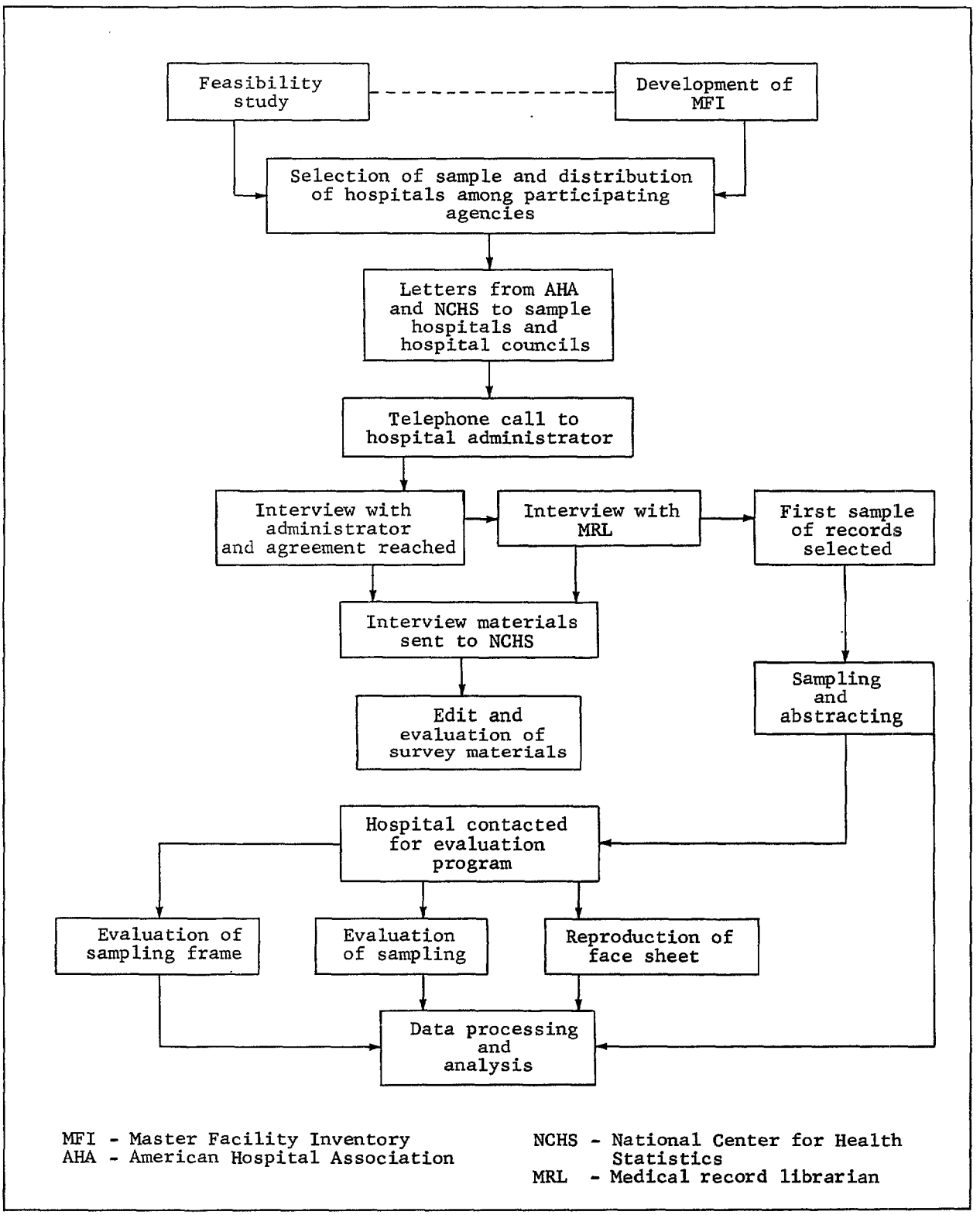

Figure I. Pilot study of the Hospital Discharge Survey.

ner of participation of hospitals in the pilot study of the Hospital Discharge Survey.

The survey activities which were carried out prior to and during the pilot study are summarized in figure 1, a flow chart depicting the initiation of the Hospital Discharge Survey.

GROUNDWORK

Definition of Hospital

For the purpose of the study a hospital was defined in the following way:

1. maintains six beds or more for inpatient care;
2. is licensed by the State in which it is located (if the State has a licensure law);
3. provides inpatient care under the supervision of a duly licensed doctor of medicine or doctor of osteopathy;
4. provides nursing service 24 hours a day under the supervision of a registered nurse;
5. maintains medical records for each patient admitted.

The study was limited to "short-term" hospitals meeting all the above requirements, that is, to hospitals in which the average length of stay was less than 30 days.

Selection of Sample

From the Master Facility Inventory a probability sample of 95 hospitals was selected for the 1964-65 pilot study. Of these hospitals, two were judged to be out of scope on the basis of the above criteria—one because it provided services for outpatients only, the other because it was a long-term hospital—and were consequently dropped from the study. These two hospitals, as well as the nine Veterans Administration Hospitals which fell into the sample, are not included in this report. The Veterans Administration Hospitals are excluded because the details of their participation were not settled during the pilot study year.

The distribution of the remaining 84 hospitals by geographic region, type of control, and bed capacity may be seen in tables 2 and 3. Although the sample was drawn from the Master Facility Inventory, the data shown in the tables are based on information provided by the hospitals on first contact. Since the Master Facility Inventory was by this time over 2 years old, some changes occurred in bed capacity and type of control, and the figures here may differ slightly from figures published elsewhere.

Nearly one-half the hospitals visited had more than 300 beds, and 20 percent had over 1,000 beds. The reason for this high proportion of large hospitals is that the sample was made up of two panels: (1) a certainty panel of all hospitals having 1,000 beds or more and (2) a probability panel of hospitals with fewer than 1,000 beds. As might be expected, the government-owned hospitals—State and local—were the largest, with nearly one-half of these falling into the category of 1,000 beds or more, and the proprietary hospitals were the smallest, with none of the four having more than 400 beds. The government hospitals comprised 33 percent of the pilot study hospitals. Church-owned hospitals accounted for 23 percent, and other nonprofit hospitals accounted for 39 percent. The proprietary hospitals amounted to only 5 percent of the total. By geographic region, nearly one-third of the sample hospitals were located in Northeastern States; one-seventh were in the West. The remaining 45 hospitals were evenly divided between the North Central and Southern States. All but 7 of the 84 hospitals were members of the American Hospital Association. The nonmembers were, for the most part, small hospitals with fewer than 100 beds.

Distribution Among Agencies

The responsibility for contacting hospitals and bringing them into the Hospital Discharge Survey fell largely to the Bureau of the Census, whose personnel setup was particularly well suited for such a study. Their field personnel, located throughout the Nation, were already experienced in sample surveys in the health field. It is they who conduct the field work for the Health Interview Survey.

Table 2. Distribution of pilot study hospitals in each geographic region, by selected characteristics: Hospital Discharge Survey, 1964-65

Characteristic	Geographic region				
	All regions	North-east	North Central	South	West
Total	84	27	22	23	12
Bed capacity[1]					
Under 50 beds	8	2	2	2	2
50-99 beds	9	1	3	4	1
100-199 beds	15	4	3	5	3
200-299 beds	11	4	4	2	1
300-499 beds	14	4	5	3	2
500-999 beds	10	4	2	2	2
1,000 beds or more	17	8	3	5	1
Control					
State and local government	28	8	6	9	5
Church	19	5	8	4	2
Other nonprofit	33	14	8	8	3
Proprietary	4	-	-	2	2
AHA membership					
Member	77	26	20	20	11
Nonmember	7	1	2	3	1

[1]Exclusive of bassinets for newborn infants.

NOTE: AHA—American Hospital Association.

Table 3. Distribution of pilot study hospitals, by type of control and bed capacity: Hospital Discharge Survey, 1964-65

Bed capacity[1]	Type of control				
	Total	State and local government	Church	Other non-profit	Pro-prietary
All bed capacities	84	28	19	33	4
Under 50 beds	8	3	-	5	-
50-99 beds	9	2	1	4	2
100-199 beds	15	2	5	7	1
200-299 beds	11	3	3	5	-
300-499 beds	14	1	6	6	1
500-999 beds	10	4	4	2	-
1,000 beds or more	17	13	-	4	-

[1]Exclusive of bassinets for newborn infants.

The 84 hospitals which comprised the pilot study sample were distributed among the three participating agencies in the following way:

Agency	*Hospitals*
Bureau of the Census	72
Graduate School of Public Health	8
National Center for Health Statistics	4

Methods of Data Collection

Several different data-collection procedures, or combinations of procedures, were developed for the pilot study year and assigned to the hospitals by a quasi-random process. These are defined below. Figure 2 shows for each procedure (which will be designated A, B, C, D, and E) the agency responsible for each phase of the data collection. The distribution of the sample hospitals by type of data-collection procedure offered and selected characteristics is shown in table 4. In two instances, the procedure offered to the hospital was not the one originally set by the National Center for Health Statistics. For this reason, the figures in this report for "offered" procedure may differ slightly from figures published elsewhere on "assigned" procedure.

In procedures A and E, the sampling and abstracting were done by nonhospital personnel. In procedure A, representatives of the Bureau of the Census conducted the initial interview, sampled and abstracted the medical records, and edited the abstracts; in procedure E, these operations were handled by representatives of the National Center for Health Statistics. As may be seen from figure 2, 43 hospitals were offered procedure A and 4 were offered procedure E.

In the protocol for procedure A, the data collection was set up in such a way that the abstractor would visit the hospital once every 3 months, select a sample of records to be abstracted on the next visit, and then abstract the records which had fallen into the sample on the preceding visit. The purpose of the interval between sampling and abstracting was to allow time for the records to be completed and made available for abstracting. Procedure E was the same as procedure A, except that the hospitals were visited every other month instead of every 3 months.

In procedure B, which is essentially a combination of procedures A and C (below), a representative of the Bureau of the Census selected a sample of records each month but prepared only the demographic portion of the abstract form. An employee of the hospital—the medical record librarian or someone under her supervision—completed the medical portion of the form, that is, the diagnostic and surgical information. The Census representative conducted the initial interviews, and the abstracts were sent to the Bureau of the Census each month for editing.

In procedures C and D, the sampling and abstracting were done by hospital personnel. Both C and D called for monthly sample selection and completion of abstracts. The abstracts were then sent to the Bureau of the Census for editing if a Census representative had made the initial contact with the hospital (procedure C), or to the National Center for Health Statistics if the contact had been made by a representative of the Graduate School of Public Health (procedure D). Twenty-one hospitals were offered procedure C, and eight were offered procedure D.

Because procedure E, for our purposes here, is essentially the same as procedure A, and procedure D the same as procedure C, we shall refer simply to procedures A, B, and C—as they affect and are affected by the matter of cooperation. Table 4 shows the distribution of the sample hospitals by both offered and final procedure and by selected characteristics of the hospitals.

Abstract Forms

Two different abstract forms were developed for the pilot study: (1) a conventional form in which the entries were written in (exhibit C), and (2) a form in which appropriate spaces were blocked in for scanning by an IBM "reader" (exhibit D). The first form was assigned to 41 hospitals and the second to 43. The two forms were fairly evenly distributed among the hospitals by size, type of control, geographic region, and assigned data-collection procedures. The assignment of the abstract form to a particular hospital was random within paired groupings of hospitals.

Survey operation	Data-collection procedure				
	A	B	C	D	E
	Agency				
Interviewing	Census[1]	Census[1]	Census[1]	GSPH	NCHS
Sampling	Census	Census	Hospital	Hospital	NCHS
Abstracting	Census	Census and hospital	Hospital	Hospital	NCHS
Editing	Census	Census	Census	NCHS	NCHS
Number of hospitals	43	8	21	8	4

[1]At a small number of hospitals the Census Bureau supervisor observed while a representative of the National Center for Health Statistics or the Graduate School of Public Health conducted the interviews.

NOTE: GSPH—Graduate School of Public Health; NCHS—National Center for Health Statistics.

Figure 2. Alternative procedures that were offered, defined in terms of survey operations and agencies involved.

Sampling Rate

The proportion of records sampled within each hospital was designed to vary inversely with the size interval of the hospital as given in the Master Facility Inventory. Table 5 presents the sampling rates established for each hospital-size group. The rates ranged from 1 percent at the largest hospitals with 1,000 beds or more to 20-40 percent in hospitals with fewer than 50 beds. Bed capacity as reported by the administrator would in a few instances have placed the hospital in another size interval in terms of the sampling rate. However, no adjustment in the original rate was made because each hospital had fallen into the sample on the basis of its size as reported in the Master Facility Inventory.

Sampling Procedure

The method of sampling the medical records was determined in each hospital by the format of its discharge listing. If the listing contained the patients' medical record numbers, terminal-digit sampling could be used; otherwise, interval sampling was required.

In terminal-digit sampling, the sample for a particular month would consist of all patients discharged that month whose medical record

Table 4. Distribution of pilot study hospitals with various offered and final data-collection procedures, by selected characteristics: Hospital Discharge Survey, 1964-65

Characteristic	Offered procedure				Final procedure[1]			
	Total	A or E	B	C or D	Total	A or E	B	C or D
Total	84	47	8	29	81	48	3	30
Bed capacity[2]								
Under 50 beds	8	5	-	3	8	5	-	3
50-99 beds	9	4	-	5	9	4	-	5
100-199 beds	15	7	-	8	15	7	-	8
200-299 beds	11	7	-	4	11	7	-	4
300-499 beds	14	7	3	4	13	6	1	6
500-999 beds	10	4	2	4	10	4	2	4
1,000 beds or more	17	13	3	1	15	15	-	-
Control								
State and local government	28	17	3	8	27	20	-	7
Church	19	7	4	8	18	7	3	8
Other nonprofit	33	21	-	12	32	18	-	14
Proprietary	4	2	1	1	4	3	-	1
Region								
Northeast	27	16	2	9	26	17	-	9
North Central	22	10	3	9	21	10	1	10
South	23	15	1	7	22	14	1	7
West	12	6	2	4	12	7	1	4

[1]Figures for "final procedure" exclude 2 hospitals which failed to participate in the pilot study and 1 hospital where the final procedure could not be classified as A, B, C, D, or E.

Procedures A and E—Bureau of the Census or National Center for Health Statistics selects the sample and abstracts all the required data.

Procedure B—Bureau of the Census selects the sample and abstracts the demographic data; hospital abstracts the diagnostic and surgical information.

Procedures C and D—Hospital selects the sample and abstracts all the required data.

[2]Exclusive of bassinets for newborn infants.

numbers ended in a specified digit or pair of digits. For example, at one hospital where the sampling rate was four percent, an abstract would be prepared for each discharged patient whose medical record number ended, say, in 24, 44, 74, or 94, thus yielding (in the long run) a sample of 4 in every 100 discharges. A separate set of "sample key numbers" was assigned to each hospital-size group in each of the four geographic regions.

Interval sampling, which was employed when the patients' medical record numbers were not shown in the discharge list, can perhaps best be explained by an illustration. In a hospital where the sampling rate was 4 percent, the first month's sample might consist of the 24th entry

Table 5. Rates of sampling records within pilot study hospitals:[1] Hospital Discharge Survey, 1964-65

Bed capacity[2] (Master Facility Inventory)	Sampling rate	Number of hospitals
	Percent	
Under 50 beds:		
Northeast	20	1
North Central	40	2
South	40	3
West	30	2
50-99 beds	14	11
100-199 beds	7	14
200-299 beds	4	13
300-499 beds	3	12
500-999 beds	2	8
1,000 beds or more	1	18

[1]Rates were assigned on the basis of bed capacity reported in the Master Facility Inventory and do not necessarily relate to current bed capacity.

[2]Exclusive of bassinets for newborn infants.

in the discharge listing for that month (a random start) plus every 25th entry thereafter. The application of the sampling interval 25 was continuous, so that the starting point (24) would be used only once, at the beginning of the survey. Thus, in interval sampling, a starting point was assigned to each hospital-size group in each of the four geographic regions. That, in combination with the assigned interval, yielded the desired rate of sampling for the hospital. Interval sampling is generally more tedious than terminal-digit sampling and has an additional disadvantage that the medical record numbers have to be obtained from the alphabetical patient index before the sample records can be located in the numerical file. (Interval sampling had to be employed at only two hospitals.)

Other things being equal, a discharge list is preferable to an admission list in sampling because the sample selected has to relate to those patients discharged during a specified period. The use of an admission list for sampling (to be employed only when no discharge list is available) introduces some complications. To obtain from an admission list a sample of patients discharged during a certain period it is necessary to begin the sample selection some time prior to the month under consideration, in order to be reasonably certain of screening all those eligible for discharge during the survey month. A sample selected in this way, by either the terminal-digit or interval method, will obviously contain patients discharged before and after the month under consideration. When admission lists are used, it is therefore necessary to obtain the dates of discharge for all the "sample" patients and exclude or hold those not discharged during the survey month.

Not every patient who fell into the sample was necessarily included in the survey. Certain special classes of patients were considered to be out of scope even though the hospitals might have regularly recorded one or more of these classes on the discharge or admission lists. Such out-of-scope cases included the following: well-newborn infants, persons dead on arrival at the hospital, stillbirths, and a few other kinds of cases less frequently encountered. Abstracts were not completed for such out-of-scope cases.

Reimbursement Offer

Each hospital participating in the survey was offered some payment, the amount or rate depending on who was to do the sampling and abstracting of the medical records. Where hospital personnel were to handle all the work (procedure C), 30 cents per completed abstract was offered. Half that amount per abstract was offered to the B-procedure hospitals, where the hospital staff were to complete the medical portion of the abstract but were not to select the sample. Where both the sampling and abstracting were to be done by a representative of the National Center for Health Statistics or the Bureau of the Census (procedure A), the hospital was offered a flat annual amount related to the expected annual number of abstracts. These amounts varied from $10 per year for fewer than 100 abstracts to $50 per year for 750 abstracts or more (table 6). For all participating hospitals, payment was to be made at the end of each fiscal year.

Table 6. Schedule of payment for data-collection procedures in pilot study hospitals: Hospital Discharge Survey, 1964-65

Procedure and estimated annual number of abstracts[1]	Payment
	Per year
A and E	
1-99 abstracts	$10
100-299 abstracts	20
300-499 abstracts	30
500-749 abstracts	40
750 abstracts or more	50
	Per abstract
B	15¢
C and D	30¢

[1] Procedures A and E—Bureau of the Census or National Center for Health Statistics selects the sample and abstracts all the required data.

Procedure B—Bureau of the Census selects the sample and abstracts the demographic data; hospital abstracts the diagnostic and surgical information.

Procedures C and D—Hospital selects the sample and abstracts all the required data.

NCHS "Fact Sheet"

The National Center for Health Statistics prepared an information sheet on each sample hospital, giving background information about the hospital—name, address, telephone number, bed capacity, type of control, and annual number of discharges—as well as details pertaining to that hospital's participation in the survey, such as the sampling rate and sample key digits, expected number of abstracts per year, and method of collecting the data (exhibit E). These were valuable aids in preparing for the personal contacts with administrators and medical record librarians.

Special Pretest

Once the methodology for the pilot study had been developed, a special pretest was conducted in 10 of the 84 sample hospitals to test the procedures for inducting hospitals into the survey. A 1-day conference for those involved in the special pretest was held at the Graduate School of Public Health on September 22, 1964. Then letters were sent from the American Hospital Association and administrators were called on the telephone for appointments. The administrators and their medical record librarians were subsequently interviewed and initial samples of medical records were selected. This methodology will be described more fully in the section which follows. Here it is sufficient to say that the problems which were encountered in the special pretest were remedied and the survey materials were revised accordingly.

At the conclusion of the special pretest a training program was held in Chicago on November 5 and 6, 1964, for the Bureau of the Census field supervisory personnel who would be working on the survey. The pilot study then continued in the remaining 74 hospitals. Because the 10 hospitals which were visited during the special pretest were an integral part of the pilot study, no distinction will be made between them and the other 74 hospitals in the balance of this report.

INITIAL CONTACT WITH THE HOSPITAL

Letters

The administrators of the 84 hospitals which had fallen into this first Hospital Discharge Survey sample were notified of the survey during September, October, and November of 1964 by a letter from the Director of the American Hospital Association (exhibit F). This letter stressed the importance of the study and requested the hospital's participation. It was followed, in about 1 week, by a letter from the Director or the Deputy Director of the National Center for Health Statistics (exhibit G), in which the survey was described in more detail and cooperation was again requested. The letter from the National Center for Health Statistics contained a two-page statement on the survey entitled "The Hospital Discharge Survey" (exhibit H). This may be seen in Appendix II, following the letters which were sent to the administrators.

Most of the hospitals which fell into the survey sample were sent both of the letters described above. However, in the special pretest, the letter from the National Center for Health Statistics was omitted because of time considerations. The statement on the survey which would have been enclosed was given to the administrator at the start of the interview. The approach was also modified somewhat for the two sample hospitals which were not listed in the directory of hospitals published by the American Hospital Association. These hospitals received only a letter from the National Center for Health Statistics.

The local hospital associations were informed of the survey and asked to lend their support. They were told the names of the hospitals in their area which had fallen into the survey sample.

Telephone Call

The letter from the National Center for Health Statistics informed the administrators that a survey representative would telephone within a few days to make an appointment to discuss the hospital's participation in the survey. Approximately half of the administrators were called within 2 weeks of the letter, and all except one were called within 4 weeks. With one exception, the telephone contacts were completed by the middle of December.

PERSONAL INTERVIEWS

Interview With the Administrator

All of the administrators but two were interviewed by the end of December, generally within 8 weeks of the letter from the American Hospital Association. Seventy-five percent of the administrators were interviewed within 6 weeks of this letter.

The primary objective of this interview was to establish a good relationship with the hospital and to secure participation in the Hospital Discharge Survey under mutually satisfactory conditions. Another important purpose was to obtain a certain amount of information about the hospital, for example, the current annual number of discharges. These objectives were served by Section B of the interview form (exhibit I).

When an agreement had been reached on the manner of abstracting and the amount of payment, the details of the agreement were recorded on a form designed for this purpose (exhibit J). This document was needed in order to prepare a type of purchase order. (Although the form carried the heading "Contract Proposal," the interviewers were informed that this could be modified to read "Memorandum of Agreement" or altered by merely striking out the word "Contract," to read "Proposal.")

Interview With the Medical Record Librarian

By and large, the medical record librarians were interviewed on the same day as the administrator. At approximately half the hospitals, the medical record librarian was present for the interview with the administrator, and she and the administrator were interviewed together. At most of the other hospitals the interview with the medical record librarian took place immediately following the interview with the administrator. At only two hospitals was the survey representative not able to see the medical record librarian, or her delegate, that day because of some question about the hospital's participation in the survey.

The purpose of the interview with the medical record librarian was to develop a procedure within the hospital for sampling and abstracting the medical records of discharged patients and to actually inaugurate that procedure. To this end the medical record librarian was asked the series of questions in Sections C, D, E, and F of the interview form (exhibit I), covering the composition of the discharge list to be used in selecting the sample and the procedures for sampling and abstracting.

Once a sample scheme had been devised the interviewer selected the initial sample of discharges and set a date for another meeting with the medical record librarian. The agenda for this second meeting depended largely upon the abstracting procedure which had been established during the first interview. Where the Bureau of the Census was to handle the mechanics of the

survey (procedure A), the interviewer returned to introduce an assistant who would at regular intervals visit the hospital to sample and abstract records. Where the work was to be done by hospital personnel (procedure C), the interviewer returned to assist the medical record librarian with any problems she might have in connection with the survey. Most of the hospitals in the study had been visited a second time by the end of January. By the end of the second visit, the pattern for sampling and abstracting the medical records was set.

In the spring of 1965 the participating hospitals were contacted in connection with the survey's evaluation program, which was essentially a review of the sampling and abstracting which had been done. This program is described later in this report.

COOPERATION

Some of the main purposes of the pilot study were to obtain a further check on the degree of cooperation that might be anticipated by the Hospital Discharge Survey (HDS), to discover the questions that might be raised, and to develop techniques for dealing with them. This section describes these important aspects of the pilot study. It is based largely upon the reactions of the interviewers recorded on the interview form (exhibit I) and submitted in response to a subsequent request for more detail.

In a general way, it can safely be said that the results of the pilot study in terms of cooperation received from the sample hospitals were highly satisfactory. As an indication, only 2 of the 84 hospitals which were asked to participate in the pilot study failed to do so, and one of these later came into the regular survey. In the opinion of the HDS representatives who conducted the initial interviews, unreserved cooperation was obtained from 74 of the hospitals which were asked to participate in the survey and qualified cooperation was received from the remaining 8 participating hospitals.

Obtaining Interviews

The interview with the administrator as an early step in the pilot study procedure was described in the preceding chapter. With one exception, the interviews with the administrators of the 84 hospitals were quite easily arranged by telephone. Even the two administrators who withheld participation during the pilot study readily agreed to an appointment to discuss the survey. Occasionally an administrator asked questions about the survey over the telephone, but generally the telephone contacts were brief and limited to the detail of establishing a mutually satisfactory appointment time. Some of the administrators indicated on the telephone that their hospitals would participate in the survey, and at least two administrators notified the National Center for Health Statistics of their willingness to cooperate even before the telephone call had been made.

Approval of Request

At 73 of the 84 hospitals visited, the request for participation in the Hospital Discharge Survey was approved by the administrator during the initial interview. At 7 of the remaining 11 hospitals there was no question about cooperation. A signed memorandum of agreement was ultimately obtained from these hospitals as well as from two of the four hospitals where participation had been questionable.

The reason usually given for the delay in signing the proposal form was that the approval or advice of someone other than the hospital administrator had to be sought. Where this was the case, the question was generally referred to a legal advisor, the medical director, the executive committee of the medical staff, the board of trustees, or to the record room committee. Usually this was a mere formality. Occasionally more than one such agent was consulted.

Nonparticipation

The two hospitals which failed to participate during the pilot study year gave different reasons for holding back. One of the hospitals had recently had a time study conducted throughout the hospital, aimed at improving efficiency and re-

ducing expenses. As a result of the study, the medical record staff had been reduced for a trial period of 1 year. Because this action created an additional workload for the remaining staff, the administrator was unwilling to add to their responsibilities. In his opinion, 4 hours each month would have been required to pull and refile the medical records needed by the HDS abstractors, and he said he doubted that the ultimate results would justify this time.

At the other hospital the reason given for nonparticipation was primarily a legal one. The question of legality, raised by the medical director, was referred to the county attorney for an opinion in connection with the State statute on privileged communication. The opinion, which was received too late to allow for participation in the pilot study, did not preclude participation, and the hospital is now taking part in the regular survey. Although a few other administrators may have raised this question with legal advisors, none was apparently advised against participation. It seems to be the general policy to approve a survey of this nature when carried out by responsible government agencies, particularly when care is taken to insure the confidentiality of the information.

Two hospitals almost refused to cooperate in the study because of the attitude of some members of the medical staff. A few of the staff were inclined to be somewhat suspicious of any project sponsored by the Federal government. In addition, one hospital was currently participating in a local study which some physicians felt to be a nuisance since it required them to complete their medical records sooner than they might otherwise have been expected to. However, the hospital did agree to participate after discussions with its medical leaders.

ACCEPTABILITY OF DATA-COLLECTION PROCEDURES

The data-collection procedure offered by the Hospital Discharge Survey was accepted by 75 of the 82 hospitals which agreed to participate in the study. The changes in procedure made at the other 7 hospitals are reflected in table 7, which shows the distribution of all 84 hospitals by both the offered procedure and the final procedure agreed upon.

Table 7. Distribution of pilot study hospitals, by offered and final data-collection procedures:[1] Hospital Discharge Survey, 1964-65

Final procedure agreed upon	Offered procedure			
	All procedures	A or E	B	C or D
All procedures--	84	47	8	29
A or E----------	48	44	3	1
B----------	3	-	3	-
C or D----------	30	1	1	28
Other procedures---	1	1	-	-
Nonparticipation---	2	1	1	-

[1]Procedures A and E--Bureau of the Census or National Center for Health Statistics selects the sample and abstracts all the required data.

Procedure B--Bureau of the Census selects the sample and abstracts the demographic data; hospital abstracts the diagnostic and surgical information.

Procedures C and D--Hospital selects the sample and abstracts all the required data.

Procedure A

In procedure A the responsibility for data collection rests largely with nonhospital personnel. Where the medical record department is already overburdened with work this cannot help but be a consideration. Several administrators and medical record librarians were plainly relieved to learn that the mechanics of sampling and abstracting were to be handled by persons connected with the survey. Of the 47 hospitals which were offered procedure A, 44 cooperated on that basis. Of the remaining three hospitals, one failed to participate in the pilot study altogether, another was permitted to do its own sampling and abstracting (procedure C), and the third hospital, after accepting procedure A, suggested an alternate method of data collection which was eventually employed. That method is described later in this chapter.

The hospital which switched to procedure C had two objections to procedure A. The first concerned the confidential nature of the medical records. Although the administrator was willing to participate in the study to the extent of providing abstracts of the face sheet which did not contain the patient's name, he was unwilling to have the medical records seen by nonhospital personnel. Even though the administrator agreed that divulgence of information by an HDS abstractor was extremely unlikely, he preferred to have the abstracts prepared by hospital employees. This administrator believed further that the work could be handled more efficiently by hospital personnel, for the medical record department would be able to absorb the abstracting in the daily routine. He felt that the abstracts of the sample records should be prepared as soon as the records were completed by the physicians and before they were filed away. In this way the need to retrieve records for survey representatives or to keep the records out of file for appreciable periods of time would be eliminated.

It should be noted here that these objections to procedure A were also voiced by administrators who nevertheless accepted the procedure. Some of those who agreed to procedure A would have preferred to handle the survey themselves. The actual number who felt this way could not be ascertained because administrators were not asked to state a preference and, in fact, were encouraged to accept the procedure the interviewer offered.

An interesting modification in procedure A was made at one of the hospitals to which it was assigned. The administrator there preferred to have hospital personnel prepare the abstracts for certain patients who were well-known to the general public and for patients with illnesses which carry a stigma in the public mind. The administrator himself wanted to review the listing of sample cases in order to select those few which should be abstracted by the hospital. With this modification he was quite willing to participate in accordance with procedure A.

Procedure C

Only 1 of the 29 hospitals which were offered procedure C, whereby hospital personnel would be responsible for the sampling and abstracting, was not willing to cooperate on this basis. When procedure A was offered as an alternative, the hospital agreed to participate. Even though the other 28 hospitals were willing to cooperate in accordance with this procedure, some administrators and medical record librarians did voice objection to the procedure because it placed the responsibility for sampling and abstracting on medical record personnel who were already quite busy. On the other hand, to the extent that the administrators had confidence in the integrity of the employees who handled the medical records, they could be assured that confidentiality would be maintained.

In addition, under procedure C the sampling and abstracting could be incorporated in the daily routine, if the hospital so desired, and sample records would not have to be pulled for survey representatives. During the interviews, at least five of the hospitals which agreed to do the work themselves indicated that they would like to abstract the sample records daily as such records were completed and before they were filed away. Probably many of the remaining C-procedure hospitals are also handling the abstracting in this way.

Procedure B

From table 7 it may be seen that procedure B, in which the abstracting was to be shared by hospital employees and survey personnel, was the least favorably received by the sample hospitals. Only three of the eight hospitals which were offered procedure B were willing to cooperate under these circumstances. The procedure was generally regarded as inefficient by administrators who could see no reason to have two persons abstracting from the same records, particularly at different times. Three of the four hospitals which rejected procedure B preferred to have all the work done by Hospital Discharge Survey personnel, while the fourth hospital preferred to have its own employees handle the survey, so that completed records would not have to remain unfiled or be pulled for outside abstractors. One of the hospitals which were offered procedure B did not participate in the pilot study—for other reasons which have been noted.

Since procedure B was so poorly received by the pilot study hospitals, it is recommended that it not be among the procedures settled upon in later stages of the survey. While procedure B should not be proposed to any hospital, this suggestion is not meant to preclude all arrangements whereby hospital employees and survey personnel would share the abstracting. For example, if the demographic data for the sample discharges can be obtained directly from a computer tape and only the medical information needs to be taken from the medical record, a division of labor might prove to be efficient.

Other Data-Collection Procedures

At one of the hospitals which had been offered procedure A, the medical record librarian was able to suggest an alternate method of data collection which was accepted and followed at her hospital. When a record which fell into the sample was completed, a Xerox copy of the face sheet was made and sent to the National Center for Health Statistics for abstracting. This method relieved the hospital of the need to make sample records available to abstractors on prescribed dates and also avoided tying up the records within the hospital. Since this was a large teaching hospital where the medical records were quite active, these were important considerations. For its participation on this basis the hospital was paid 20 cents for each Xerox copy submitted. At the end of the pilot study year this procedure should be carefully evaluated and a determination made as to its general application. It is possible that its use might be indicated at other hospitals as well.

At another A-procedure hospital where the medical records were very active and not always available at prescribed times, the medical record librarian suggested that she make copies of the sample medical record face sheets and have them available for the HDS abstractor at the time of his visit, Without further study it is not possible to say whether the additional expense of reproducing the face sheets would be warranted in this situation, but the suggestion deserves consideration.

Conclusion

The experience in the pilot study indicates that either one of the basic data-collection procedures, A or C, would work at most hospitals. To summarize briefly, only 4 of the 76 hospitals which were offered procedure A or C did not participate in accordance with the proposed procedure. (One such hospital did not participate at all.) On the other hand, four of the eight hospitals which were offered procedure B rejected it and an additional one failed to participate.

It seems clear from this experience that hospitals will almost always accept the procedure outlined to them by the Hospital Discharge Survey. Offering the hospital a choice of procedures may create good will, but if such a policy is deemed impracticable, the large majority of hospitals can be persuaded to accept a preassigned method. Any variations in the basic method suggested by the hospital should be given consideration.

PAYMENT

As was previously stated, hospitals in which nonhospital personnel did the sampling and abstracting (procedure A) were to be paid amounts ranging from $10 to $50, depending on the number of discharges; where hospital personnel performed this job (procedure C) the payment was to be 30 cents per abstract. (In the few hospitals where the procedure was mixed, 15 cents was to be paid.)

The amount of payment proposed by the Hospital Discharge Survey, in accordance with the data-collection procedure, was accepted by 86 percent of the participating hospitals. Ten percent of the hospitals declined any payment, while 4 percent sought an additional amount (table 8). While the administrators who refused payment were not asked to give their reasons, some voluntarily stated they felt they were performing a public service by participating in the survey; others indicated that the amount involved did not warrant the cost of setting up and maintaining a special account.

The 30 hospitals which were to do their own sampling and abstracting seemed, for the most

Table 8. Distribution of pilot study hospitals, by acceptance of proposed payment and selected characteristics:[1] Hospital Discharge Survey, 1964-65

Characteristic	Payment			
	Total	Accepted	Refused	Increased[2]
Total	81	70	8	3
Final procedure				
Census or NCHS samples and abstracts all the data	48	39	7	2
Census samples and abstracts demographic data; hospital completes abstract	3	3	-	-
Hospital samples and abstracts all the data	30	28	1	1
Bed capacity[3]				
Under 50 beds	8	7	1	-
50-99 beds	9	9	-	-
100-199 beds	15	15	-	-
200-299 beds	11	10	1	-
300-499 beds	13	10	2	1
500-999 beds	10	9	1	-
1,000 beds or more	15	10	3	2
Control				
State and local government	27	22	4	1
Church	18	17	-	1
Other nonprofit	32	27	4	1
Proprietary	4	4	-	-
Region				
Northeast	26	22	2	2
North Central	21	18	3	-
South	22	21	1	-
West	12	9	2	1

[1]Figures exclude 2 hospitals which failed to participate in the pilot study and 1 hospital where the final procedure could not be classified as A, B, C, D, or E.

[2]Includes only those hospitals which requested an increase in payment. (Does not include hospitals where payment was increased on the basis of a revised estimated number of annual discharges.)

[3]Exclusive of bassinets for newborn infants.

part, satisfied with a payment of 30 cents per abstract. One administrator in this group refused payment; however another was reported as obviously pleased that the hospital would be paid. One hospital felt that the amount given would not cover the survey-related expenses and planned to maintain cost records during the pilot study year. Where survey representatives were to handle the sampling and abstracting (procedure A), the monetary offer, never more than $50 per year, was received humorously by some administrators, especially where the annual pay-

ment was to be $10 or $20. The A-procedure hospitals accounted for seven of the eight hospitals which refused payment and for two of the three hospitals where an increase was requested.

To evaluate the payment scale is beyond the scope of this report. The National Center for Health Statistics will undoubtedly want to appraise it carefully.

INTERVIEW WITH THE ADMINISTRATOR

Although a structured interview was developed for the pilot study (exhibit I), interviewers found it necessary or expedient to deviate from a formal approach. The consensus among the interviewers seemed to be that the interview should begin with an informal discussion of the Hospital Discharge Survey—its purpose, general program, and details of participation—and then proceed to the matter of collecting statistics about the hospital, which now is placed first. The start of the interview is generally not a good time to solicit data. Once the administrator has obtained a clear understanding of the survey and its requirements and it appears that an agreement will be reached, the statistical data may be obtained. The memorandum of agreement can then be prepared at the conclusion of the interview in accordance with the kind of agreement ultimately reached.

It would be helpful to the interviewer, when obtaining information about the hospital itself, to have the pertinent information from the "fact sheet" also available in the interview form. This would facilitate comparing the respondent's information with the corresponding information supplied by the National Center for Health Statistics. If a serious difference occurred, the interviewer could investigate further to ascertain which source of information was correct. Comparisons of the two sets of data might also be facilitated by presenting the "fact sheet" data in outline form with the numbers of the outline corresponding to the item numbers in the questionnaire.

Administrators' Questions and Comments

The questions asked by the administrators during the interviews were of two general types—straightforward questions seeking information about the survey, which usually required only brief replies, and questions which implied some objection to the survey. The same question might be asked in different ways by different administrators, depending on their attitudes toward the survey. For example, numerous administrators inquired about the purpose of the survey. Some were satisfied by a brief explanation stated in terms of the printed statement on the survey which had been sent to all the hospitals. Others questioned the value of the survey and wanted to know more about its specific objectives.

The administrator of a large teaching institution asked how he, as a hospital administrator, would be able to use the published data from the survey. In his opinion, combined utilization figures for a number of hospitals were meaningless, even if the hospitals were located in the same geographical area, and were of no value to an administrator in making policy decisions for one hospital. Another administrator wanted to know why the objectives of the survey could not be accomplished by using the statistics published by the American Hospital Association. Others inquired about duplication of effort; quite a few hospitals were already participating in some local project for which medical record abstracts had to be prepared.

Quite a few administrators asked how (or why) their hospitals had been selected for the survey. Other administrators showed concern that the needs of the survey would not be met by their hospital's participation; because their hospitals were not "typical" short-term institutions, a point a number of them made, they feared the overall statistics might not be sound. A brief explanation of the sampling theory underlying the selection of the hospitals, including the reasons why one hospital cannot readily be substituted for another, should be prepared for the interviewers, who may need to react to such statements.

Because questions of this kind were encountered frequently and were often difficult to answer, it is suggested that the survey materials, particularly the letters and the enclosed statement, be made more specific concerning objectives of the survey and practical uses of the data. The interviewers should be better pre-

pared to answer such questions than they were in the pilot study.

Occasionally an administrator asked what other hospitals in the area were participating in the survey. Since it has been the general policy of the Bureau of the Census not to release the names of participants in sample surveys, the Census interviewers generally tried to evade this question. However, the local hospital councils had been notified of the survey by the National Center for Health Statistics and given the names of the area hospitals selected for the survey. Some of the councils had in turn passed this information on to the hospitals themselves. The position of the interviewer under these circumstances was uncomfortable. The policy of the survey with respect to releasing participants' names should be well defined, and the interviewers should be informed of that policy.

"When is the survey to begin?" and "How long will it last?" were other questions frequently encountered. The answers were not provided in the written statement on the survey. The answer to the latter question had, in fact, not yet been determined for individual hospitals at the time the interviews were held. Since the administrators deserve an answer to this question, it is hoped that such details will be available for the next set of interviews.

At least one administrator gained the impression from the correspondence that his hospital's participation was being requested for 1 year only. He may have been led to believe this by a statement in the letter from the American Hospital Association to the effect that the hospital was being asked to participate in the pretesting phase of the study. The printed statement which was enclosed in the followup letter from the National Center for Health Statistics could have been interpreted to imply that the pilot study would end by July of 1965. It is unfortunate that such misunderstandings occurred. Providing pertinent details in the letters and any other advance materials may help to prevent such difficulties in the future.

Quite a few administrators inquired about the amount of work the survey entailed. Some merely wanted to have the knowledge. But to others the question was a matter of real concern since their medical record personnel were already working to near capacity.

Some administrators had not realized that only a sample of the medical records was to be abstracted. The letter from the American Hospital Association did not mention this point, and in the letter from the National Center for Health Statistics the reference to the record sample was rather general. ("The survey will collect information for a sample of discharges in a national sample of short-term hospitals.") In the statement on the survey, "sample discharges" was used twice, but this term was not defined. It was not until the second page of the statement that one learned that there would be "... a sample of a relatively small number of discharges within each sample hospital." This is one of the big "selling" points of the survey, and it cannot be overemphasized. The administrator should be aware of this before the interview is even held. Consideration should be given to the possibility of informing the administrator in one of the advance letters of the actual sampling ratio for his hospital.

The reference in the survey statement to possible future expansion of the survey disturbed some administrators. ("Several years hence it is likely that additional information about the sample discharges available from the hospital records would be collected.") One administrator inquired about the kinds of data which might later be collected; the interviewer was unable to provide the answer. Another administrator stated that he was willing to cooperate with the study as it then stood but might not want to participate if it became more involved. Still, a few administrators were a little critical about the seeming paucity of information being collected initially.

Some administrators wanted to know if the signed agreement was legally binding on the hospital, or if the hospital could drop out of the survey at a later date if it became too much of a burden. The interviewers were told that they might reply in the negative to the first part and hence affirmatively to the second part of the question. An instruction about the extent of obligation should be prepared for the manual; it should explain at the same time why the memorandum of agreement is necessary.

"How are the records to be sampled?" was frequently asked by both administrators and medical record librarians. A simple explanation in-

volving the sample key digits usually sufficed. It is both desirable and necessary to quote the sample key digits when explaining the sampling procedure. Since the digits are not now recorded in the interview form, space should be provided for them at the beginning of the interviews with the administrator and the medical record librarian and perhaps on the first page of the form, as well, in the box where the hospital's name and address are recorded (exhibit I). It is inconvenient and awkward for the interviewer to have to refer to some other sheet when he is ready to explain the sampling process. If the sampling ratio is stated in one of the letters to the administrator, the sample key digits might be quoted as well.

A few administrators inquired how the amount of payment for participation had been determined. It seems to be quite important that the interviewers have some knowledge in this respect. Of course, the questions of confidentiality and legality were also raised. These topics have been discussed previously.

Presence of Medical Record Librarian

The Hospital Discharge Survey had recommended that if possible the medical record librarian be present at the interview with the administrator, but that suggestion had to be made tactfully inasmuch as it was entirely the administrator's prerogative as to which members of his staff should be present at the interview. About one-half the administrators chose to have their medical record librarians present from the first (table 9). It is likely that many felt that she should be there for the entire interview since the survey directly concerned her department. Indeed, at one hospital the administrator asked the medical record librarian to handle the interview and left to return only to sign the memorandum of agreement.

In 70 percent of those instances where the medical record librarian had been present during the interview with the administrator, the interviewer said that her presence had been helpful, and a number of interviewers recommended that this become standard procedure. When the administrator and the medical record librarian are interviewed together, a second explanation of the survey becomes unnecessary. Also, having both present facilitates reaching an agreement which is acceptable to all concerned. If the administrator and the medical record librarian are not in accord about some of the details, their differences can be reconciled before an agreement is signed. Because of her special knowledge and insight about the medical record system in the particular hospital, the medical record librarian may be able to recommend an alternate data-collection procedure which is acceptable. The ultimate procedure is more likely to fit the hospital when the administrator and the medical record librarian are interviewed at the same time.

Another advantage to interviewing the administrator and the medical record librarian together is that the medical record librarian is often in a better position than the administrator to furnish the needed statistical information on discharges, births, and the like. It is frequently the medical record department which compiles these data. If the medical record librarian is present, the questions can be directed to both, and whoever has the information can supply it.

Although the interviewers at 10 hospitals replied that the presence of the medical record librarian was not particularly helpful, for only 2 of the 10 was it reported that her presence had had a detrimental effect. At one of these hospitals the medical record librarian objected to the survey, and cooperation was obtained only by agreeing to furnish Census personnel to do the work. At the other hospital the medical record librarian reportedly complicated the interview with the administrator by asking questions irrelevant to her role in the survey.

The potential advantages of interviewing the administrator and the medical record librarian simultaneously probably far outweigh the potential disadvantages, and it is recommended that this become standard practice. It is also suggested that, as was done in the pilot study, after the survey has been explained and an agreement reached, the interview with the medical record librarian be continued in the medical record department. In that way the administrator's time need not be taken up with the mechanics of sampling and abstracting which do not directly concern him. The propitious time for adjourning to the medical record department might be the point at which, in

Table 9. Distribution of pilot study hospitals, by presence and helpfulness of medical record librarian (MRL) during interview with administrator and by selected characteristics:[1] Hospital Discharge Survey, 1964-65

Characteristic	Total	MRL present			MRL not present
		Helpful	Not helpful	Undetermined	
Total	80	29	10	2	39
Final procedure[2]					
A or E	46	18	6	1	21
B	3	2	-	-	1
C or D	28	8	3	1	16
Other procedure	1	1	-	-	-
Nonparticipation	2	-	1	-	1
Bed capacity[3]					
Under 50 beds	5	2	-	1	2
50-99 beds	9	3	-	-	6
100-199 beds	14	5	-	-	9
200-299 beds	11	4	1	-	6
300-499 beds	14	4	5	-	5
500-999 beds	10	5	2	-	3
1,000 beds or more	17	6	2	1	8
Control					
State and local government	27	10	4	2	11
Church	18	6	2	-	10
Other nonprofit	31	13	3	-	15
Proprietary	4	-	1	-	3

[1]Figures exclude 3 hospitals where the administrator was also the medical record librarian and 1 hospital where the administrator asked the medical record librarian to handle the induction interview.

[2]Procedures A and E—Bureau of the Census or National Center for Health Statistics selects the sample and abstracts all the required data.

Procedure B—Bureau of the Census selects the sample and abstracts the demographic data; hospital abstracts the diagnostic and surgical information.

Procedures C and D—Hospital selects the sample and abstracts all the required data.

[3]Exclusive of bassinets for newborn infants.

the pilot-study procedure, the interview with the medical record librarian is supposed to start.

The medical record librarian should not be interviewed in advance of the administrator. To do so implies that the hospital will participate in the survey, a presumption that the administrator may resent.

INTERVIEW WITH THE MEDICAL RECORD LIBRARIAN

Most of the medical record librarians were quite receptive to the survey, although some, naturally, had reservations about the amount of work involved. One medical record librarian who was asked to prepare abstracts from the face sheets of approximately 550 medical records a year felt this amount would place too much of a burden on her limited staff. Other medical record librarians were concerned about the amount of time that would be required to locate and pull the sample medical records. At large teaching hospitals where the records are very active, the time taken in tracking records down can be considerable. If the hospital requires an "out-card" to be prepared for each record removed from file, even more time is consumed in pulling each chart.

The survey's policy of requesting abstracts from participating hospitals as of July 1, 1964, regardless of the date an agreement was reached, drew complaints from some of the medical record librarians who were to do their own abstracting. This request meant that if the medical record librarian wished to incorporate the sampling and abstracting in her daily routine, the work would be some months behind before it even began. Such circumstances do not create good will with the hospitals. To avoid this situation in the future it is suggested that sampling, particularly for the hospitals that are to do the work themselves, begin with the discharges of the month following the one in which an agreement is reached. At most hospitals this would be the month following the month of initial interview. In that way the medical record librarians could do the abstracting monthly or daily, whichever they preferred.

The cooperation and interest of the medical record librarians are reflected in their discerning questions, their helpful suggestions, and their willingness to modify office procedures. For example, several medical record librarians who normally did not prepare lists of discharges agreed to maintain daily records for the Hospital Discharge Survey. Others who had lists of discharges without the medical record numbers offered to begin adding the numbers as of the day of interview. Where more difficult sampling problems were presented, the medical record librarians went to even greater lengths to assist the survey representatives. It is true that in some instances the medical record librarian tended to be resistant and was difficult to interview, but this is to be expected in any study which involves personal contact with a sizable number of individuals.

The vast majority of interviewers seemed to be satisfied with the questionnaire used in the interview with the medical record librarian. Their objections tended to be minor in nature and to concern specific items rather than the general approach. Perhaps the most frequent difficulties arose in connection with the definitions of the special classes of patients referred to in questions 3a and 4a (page 7 of exhibit I), which were designed to establish the composition of the discharge lists to be used in sampling. The definition of "well-newborn infants" was especially troublesome. This term was not precisely defined for the pilot study. Consequently, when medical record librarians inquired about its meaning—and many did inquire—the interviewer was often unable to give a satisfactory reply. Medical record librarians also asked if abstracts should be prepared for the following classes of newborn infants: (a) premature births which were otherwise normal, (b) well-newborn infants who were discharged before the mother, and (c) well-newborn infants who were to be adopted and therefore remained after the mother was discharged. Although answers to each of these specific questions were circulated early in the pilot study, it would seem well to add this information to the Hospital Discharge Survey reference manual. Even with specific written instructions, situations will occasionally arise in which the medical record librarian is in doubt about whether to prepare an abstract. Perhaps there should be a general rule for abstracting if in doubt.

The wording of questions 3a and 4a could stand improvement. It was the impression of the writers that these questions did not fully serve their intended purpose of defining the composition of the daily discharge sheets.

Another question which should be rewritten is number 1b, which asks if the newborn infant receives the same medical record number as the

mother. Since the infant is far more likely to be assigned a number of its own, the question should be worded in this way. Also, it should provide for the reply that the infant receives the mother's number but with a letter attached. The latter practice seems to be as common as that of assigning the mother's number to the infant.

The person interviewed about the medical records should be the person who will be responsible for future work on the survey. This is especially important at hospitals which will be doing their own sampling and abstracting. If the interviewer learns that someone other than the medical record librarian will handle the survey, he should request that person's presence for the interview.

EVALUATION PROGRAM

In the spring of 1965 an evaluation program was carried out in most of the pilot study hospitals in order to check the quality of the sampling and abstracting. The purpose of this program was not to assess blame for errors but rather to gauge the magnitude of these errors and the effect they might have on the data which are collected and tabulated.

PROCEDURE

The check on the quality of the medical record samples consisted of two parts—first, an evaluation of the completeness of the frame from which the sample was selected, and second, a check on the accuracy of the sample selection. The completeness of the sampling frame was verified by compiling the following figures for a 3-month period: (1) the number of patients in the hospital at the beginning of the period, (2) the number of admissions during the period, obtained by counting the patients on the appropriate admission lists, (3) the number of discharges during the period, obtained by counting the number of patients on the appropriate discharge lists (i.e., the sampling frame), and (4) the number of patients in the hospital at the end of the period. The sampling frame was considered to be complete if the sum of the first two figures minus the third figure was equal to the fourth figure. Small discrepancies were acceptable, but differences larger than the sampling interval for that hospital (for example, 25, where the sampling rate was 4 percent) had to be reconciled.

Once the sampling frame had been evaluated in terms of total numbers, the sampling itself was checked for a 1-month period. The procedure which was followed depended on the types of records which the individual hospitals had available. The usual procedure was to check the sample drawn from the discharge lists against what the sample would have been had it been taken from the admission lists.

The evaluation of the data obtained from the medical records also consisted of two parts. First, the medical-record face sheet form used by each hospital was scrutinized by Hospital Discharge Survey staff to determine its adequacy in terms of information needed for the survey. Then a sample of the medical records which had already been abstracted was reabstracted by the National Center for Health Statistics, and the two sets of data were compared to see if the instructions for abstracting were being uniformly followed by all abstractors.

In order for the duplicate abstracts to be completed at the National Center for Health Statistics, facsimiles of the sample medical-record face sheets had to be prepared at the participating hospitals. The methods by which these face sheets were reproduced will be discussed in the following section.

COOPERATION OBTAINED

Seventy-two of the 82 hospitals which participated in the pilot study cooperated in reproducing the sample face sheets. Of the remaining 10 hospitals, 1 was already submitting facsimiles as part of the regular data-collection program; it is not included in table 10. Five hospitals which had hesitated about participating in the survey initially were not asked to submit facsimiles because of the risk that an additional request might result in their withdrawing from the study entirely, and four hospitals which were asked refused the request.

Table 10. Distribution of pilot study hospitals, by procedure for sampling and abstracting records and degree of cooperation in supplying face sheet facsimiles:[1] Hospital Discharge Survey, 1964-65

Degree of cooperation	Final procedure[2]			
	All procedures	A or E	B	C or D
Total	81	48	3	30
Cooperation obtained	72	44	3	25
Cooperation refused	4	1	-	3
Not asked to cooperate	5	3	-	2

[1] Figures exclude 2 hospitals which failed to participate in the pilot study and 1 hospital which supplied facsimiles as part of the regular data-collection procedure.

[2] Procedures A and E—Bureau of the Census or National Center for Health Statistics selects the sample and abstracts all the required data.

Procedure B—Bureau of the Census selects the sample and abstracts the demographic data; hospital abstracts the diagnostic and surgical information.

Procedures C and D—Hospital selects the sample and abstracts all the required data.

Ninety-two percent of the hospitals which were following procedure A and 83 percent of those which were following procedure C were willing to submit facsimiles (table 10). Although the hospitals were instructed by the Hospital Discharge Survey to block out the patient's name when preparing the facsimile, a number of hospitals did not feel it necessary to do so. About half of the hospitals which agreed to cooperate stipulated that the facsimiles should be made at the same time the initial abstracts were prepared, in order to avoid pulling the sample records solely for the evaluation program.

Most of the hospitals which agreed to provide face sheet facsimiles were given their choice as to how the reproductions would be made. (A few of the hospitals which did the abstracting themselves were asked to make copies of the face sheets at the same time the abstracts were prepared and to send them to the National Center for Health Statistics along with the regular monthly transmittal.) The facsimiles were prepared by hospital personnel at slightly more than one-half of the cooperating hospitals and by nonhospital personnel at the remaining hospitals (table 11).

Eighty-eight percent of the hospitals which did their own abstracting prepared their own facsimiles, whereas 61 percent of the hospitals at which the abstracting was done by nonhospital personnel preferred to have the facsimiles made by nonhospital personnel. Where the hospitals had no equipment suitable for reproducing face sheets, the Bureau of the Census provided a special camera which could be used for this purpose. In 29 hospitals the facsimiles were made by survey representatives using the Census camera.

RECOMMENDATIONS

Considerable tact may be required of the individual who introduces the evaluation program in a hospital where the sampling and abstracting are done by hospital personnel, to make sure the medical record librarian does not feel that the quality of her work is being questioned. An impression of this kind can create resentment. The Hospital Discharge Survey should continue the practice of informing the medical record librarian of the evaluation program at the time of initial interview, explaining at the same time the reason

Table 11. Distribution of pilot study hospitals cooperating in the evaluation program, by procedure for sampling and abstracting records and method of obtaining face sheet facsimiles: Hospital Discharge Survey, 1964-65

Method of obtaining facsimiles	Final procedure[1]			
	All procedures	A or E	B	C or D
All methods	72	44	3	25
NCHS or Census representative with Census camera	29	25	2	2
NCHS or Census representative with hospital equipment	4	2	1	1
Hospital personnel with hospital equipment	39	17	-	22

[1] Procedures A and E—Bureau of the Census or National Center for Health Statistics selects the sample and abstracts all the required data.

Procedure B—Bureau of the Census selects the sample and abstracts the demographic data; hospital abstracts the diagnostic and surgical information.

Procedures C and D—Hospital selects the sample and abstracts all the required data.

for the evaluation. An official statement prepared by the National Center for Health Statistics on the need for evaluation might prove to be helpful.

The arrangements for the evaluation program were made with the medical record librarian, occasionally by telephone. When the appointment was made by telephone, the interviewer tentatively determined which of several evaluation methods he would follow at the hospital by asking a series of prescribed questions. Because it is difficult for the medical record librarian to understand from the questions precisely what materials the interviewer will require, it is suggested that the interviewer write to the medical record librarian to confirm the appointment and to request that the necessary materials be made available. The materials should be listed precisely to avoid possible misunderstanding. The list should include materials needed for the verification of the sampling frame as well as those needed to verify the sampling itself. Such advance notice might help to avoid confusion on the day of the visit.

SUMMARY

In the summer of 1963 the Graduate School of Public Health, University of Pittsburgh, undertook a study for the National Center for Health Statistics of the U.S. Public Health Service to develop the mechanics of securing cooperation of hospitals in the continuing collection of morbidity statistics on hospitalized patients and to explore methods of obtaining such data. The Public Health Service had already inaugurated a Household Interview Survey and a Health Examination Survey and planned to complement its program with a Hospital Discharge Survey of national scope.

In order to determine the circumstances under which hospitals would be willing to cooperate in a national survey, the problems that would be encountered in translating records of discharges into a sampling frame, and the amount of information that would be uniformly available in all hospitals, the Graduate School of Public Health interviewed hospital administrators and medical record librarians and scrutinized medical records in 45 purposively selected hospitals throughout the United States. A detailed report on the study was presented to the National Center for Health Statistics in 1964. An earlier section of the present report has summarized the feasibility study findings, with emphasis on those which relate to securing cooperation in a hospital discharge survey.

While the feasibility study was still in progress, methodology was developed by the National Center for Health Statistics, with the assistance of the U.S. Bureau of the Census and the Graduate School of Public Health, for a national hospital discharge survey. The new procedures and forms were then tested by these three agencies in a probability sample of 84 of the Nation's short-term hospitals during the fiscal year 1965. This report has, in earlier sections, described the methodology and presented some of the results of this pilot study. Again, aspects of the study which relate to the matter of cooperation have been emphasized. The more important findings and recommendations are restated in this summary.

The procedure for getting in touch with the administrators of the 84 hospitals which fell into the pilot study sample consisted of the following steps: (1) a letter from the Director of the American Hospital Association, in which the survey was briefly described and the hospital's participation was requested; (2) a letter from an official of the National Center for Health Statistics, in which the survey was described in more detail and participation was again requested; and (3) a telephone call from a representative of the National Center for Health Statistics, the Bureau of the Census, or the Graduate School of Public Health, depending on who was to conduct the particular interview, requesting a personal interview with the administrator and his medical record librarian. All of the administrators but one readily granted interviews, and an interview was eventually arranged with the remaining administrator.

The primary objective of the interview with the administrator was to establish rapport with the hospital and to secure cooperation under mutually satisfactory circumstances; another important objective was to obtain certain statistical information about the hospital itself. Nearly one-half of the administrators chose to have their medical record librarians present from the beginning of the meeting, and where this was the case, the interviewers generally believed that her presence had been helpful. When the administrator and the medical record librarian are interviewed together, a second explanation of the survey is not required. Also, having both present facilitates reaching an agreement which is acceptable to all concerned. If the administrator and the medical record librarian are not in accord about the most acceptable way of proceeding, their differences can probably be reconciled without delay. Another advantage to interviewing the two together is that the medical record librarian is often the one who can furnish the needed statistical information on discharges, births, and the like. After the survey has been explained and an agreement reached, that part of the interview which relates specifically to sampling and abstracting

medical records can be continued with the medical record librarian in her own office.

Only 2 of the 84 hospitals which were asked to participate in the pilot study failed to do so, and 1 of these is now participating in the regular survey. The memorandum of agreement, which served as a record of understanding with the hospital, was signed during the interview with the administrator at 73 hospitals. At the remaining 9 participating hospitals, the approval or advice of someone other than the administrator had to be sought, which resulted in a delay in obtaining a signed agreement.

During the interview with the medical record librarian, the initial sample of medical records was selected. The proportion of records sampled within each hospital varied inversely with the size of the hospitals and ranged from 20 to 40 percent of the records at the smallest hospitals (fewer than 50 beds) to 1 percent at the largest hospitals (1,000 beds or more). The actual method of selecting the sample was determined by the nature of the patient-listing maintained by the hospital. The preferred type of list was a daily or monthly listing of discharged patients showing their medical record numbers.

Several different methods of data collection were tried out during the pilot study year. These were of three basic types. The sampling and abstracting of the medical records were done either by nonhospital personnel (procedure A), by hospital personnel (procedure C), or by both hospital and nonhospital personnel (procedure B). The pilot study experience indicated that either of the first two data-collection procedures (A or C) would work at most hospitals. Forty-four of the 47 hospitals which were offered procedure A and 28 of the 29 hospitals which were offered procedure C agreed to cooperate on that basis. Only three out of eight hospitals accepted procedure B; it was generally regarded as inefficient by administrators who could see no reason to have two persons working on the same abstracts, particularly at different times.

The hospitals in which survey personnel did the sampling and abstracting were offered payment ranging from $10 to $50 per year, the amount depending on the expected annual number of abstracts. Hospitals which did the work themselves were offered 30 cents per abstract, and those which shared the work with survey personnel were offered 15 cents per abstract. Altogether, eight hospitals declined any payment, and three sought an additional amount. The A-procedure hospitals accounted for seven of the hospitals which refused payment and for two of those which requested an increase. Some administrators who did not accept payment let it be known that they considered their participation a public service; others indicated that the amount offered did not warrant the cost of setting up and maintaining a special account.

Two different abstract forms were used in the pilot study: (1) a conventional form in which the entries were written in (exhibit C), and (2) a form in which appropriate spaces were blocked in for scanning by an IBM "reader" (exhibit D). The first form was used in 40 hospitals and the second in 42. Both forms found ready acceptance, although a few hospitals had a little difficulty getting accustomed to the IBM form.

In the spring of 1965 an evaluation program was carried out in most of the pilot study hospitals. The purpose of this program was not to assess blame for errors but to measure the errors and gauge the effect they might have on the data which are collected and tabulated. The sampling was evaluated by studying the sampling frame for possible deficiencies and by checking the accuracy of the sample selection. The quality of the data was evaluated by studying the medical record face sheet forms to determine their adequacy in terms of information needed for the survey and by checking a sample of the abstracts which had already been prepared.

In order to accomplish this last objective it was necessary to make reproductions of the medical record face sheets from which the abstracts had been prepared. Seventy-two of the 82 hospitals complied with this request, but 33 of these stipulated that the facsimiles should be made at the same time the initial abstracts were prepared so that the records would not have to be pulled for the evaluation program.

This report has tried to make plain that the spirit of cooperation among hospital administrators and medical record librarians is strong. If any serious problems are encountered in expanding the Hospital Discharge Survey sample to several hundred hospitals, lack of cooperation will probably not be one of them.

Once again, in order to summarize, among the main findings and recommendations related to cooperation in the hospital were the following:

1. The hospitals by and large accepted the procedure for abstracting requested of them by the Hospital Discharge Survey. The exception was the procedure in which both hospital and nonhospital personnel would share in the abstracting (procedure B). This procedure should be dropped. Some hospitals requested modifications in the basic procedure because of personnel, space, and similar problems. These changes should be accepted where they do not affect the data gathering.
2. At times, the interviewers seeking to obtain the hospital's cooperation were, somewhat to their embarrassment, unable to answer questions about the survey put to them by the administrators. It is obviously impossible to anticipate every such question, but some of the need for more precise informing of the interviewers can be met. Statements about the purpose and uses of the survey should be strong and specific.
3. The interview with the administrator should not start with the solicitation of numerical data. Rather, it should begin with an informal discussion of the survey.
4. Early in the pilot study, the recommendation was made to the interviewers by the Hospital Discharge Survey that the administrator and medical record librarian be interviewed at the same time. This is preferable to separate interviews. In any event, the medical record librarian should not be interviewed in advance of the administrator.
5. There are some minor matters which can further the cause of cooperation but which may not perhaps have received sufficient stress during the interviews. Among these are (1) the relatively small proportion of records actually to be abstracted, (2) the maintenance of confidentiality, and (3) the voluntary character of the hospital's participation.
6. Some definitions involved in the interview with the medical record librarian seem to need sharpening. While this matter is a little removed from the question of cooperation, it is a possible source of irritation and should be attended to.
7. The evaluation program, which was described in the foregoing section, was approached with wariness so that hospital personnel would not feel their abilities were being questioned. With proper precautions, which have been mentioned, it appears to have turned out successfully.

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APPENDIX I
FEASIBILITY STUDY

Exhibit A. Letter to Hospital Administrator

UNIVERSITY OF PITTSBURGH
GRADUATE SCHOOL OF PUBLIC HEALTH
PITTSBURGH, PENNSYLVANIA, 15213

DEPARTMENT OF BIOSTATISTICS

July 2, 1963

Dear (Hospital Administrator):

The University of Pittsburgh is conducting a study on behalf of the National Center for Health Statistics of the U.S. Public Health Service to determine what problems there may be in collecting statistical information from hospital records. The purpose of this letter is to request your cooperation in the study.

The main objectives are to determine what information is available in hospital records from which comprehensive national statistics can be generated, the limitations the data might have for statistical purposes, and what problems may be encountered in abstracting the information. To get some answers to these questions we are visiting about 50 short-stay hospitals in various parts of the nation. The study procedure involves a brief interview with the administrator and medical record librarian. In addition, it calls for selecting a small random sample of discharges and abstracting information from medical records. The names of patients would be of no interest to us except as a means of locating the records.

We will contact you by telephone within the next few days to determine the most convenient time for visiting your hospital.

We will greatly appreciate your cooperation.

Sincerely yours,

Isidore Altman, Ph. D.
Professor of Medical Care Statistics

Exhibit B. Abstract Sheet

Form HRS 3(d)-3 Budget Bureau No. 68-6341; Approval expires Dec. 31, 1963

University of Pittsburgh - Graduate School of Public Health
Study of Feasibility of Sampling Hospital Discharge Records

DISCHARGE ABSTRACT SHEET

Name of Hospital	Address	Abstractor	Date

1.	HOSPITAL CODE NUMBER				
2.	CONTROL	1-Govt.-Nonfed.	3-Vol.-Other		
		2-Vol.-Church	4-Proprietary	5-Govt.-Fed.	
3.	NUMBER OF BEDS	1-25-49	3-100-299		
		2-50-99	4-300+		
4.	GEOGRAPHIC REGION		1-Northeast	3-South	
			2-North Central	4-West	
5.	MEDICAL RECORD NUMBER				
6.	ADMISSION DATE (mo., day, yr.)				MO. DAY YR.
7.	DISCHARGE DATE (mo., day)				MO. DAY
8.	LENGTH OF STAY (days)				
9.	DATE OF BIRTH (mo., day, yr.)		0000Y-Not asked 000YY-Not answered		MO. DAY YR.
10.	AGE ON ADMISSION	00-Under 1 year 99-100+	0Y-Newborn (Go to ITEM 29)		
11.	COLOR	1-White 2-Nonwhite	3-Not asked 4-Not answered		
12.	SEX	1-Male 2-Female			
13.	MARITAL STATUS	1-Never married 2-Married	3-Widowed 4-Divorced	5-Separated	
14.	OCCUPATION ITEM:	1-Patient 2-Father	3-Husband 4-Other _____	5-Not asked	
15.	OCCUPATION (specify)			000-Not asked 00Y-Not answered	
16.	EMERGENCY?	1-No 2-Yes			
17.	ACCOMMODATION ITEM:	1-On admission 2-At discharge	3-Preferred 4-Combination	5-Most of stay 6-Not asked	
18.	ACCOMMODATION	1-Private 2-Semi-	3-Ward 4-Nursery	5-Other _____ 6-Combination _____	
19.	DISCHARGE STATUS	Alive 1-With approval 2-Against advice 3-Transferred 4-Other _____		Died 5-Autopsy 6-No autopsy	

CONFIDENTIAL - This information is collected 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 an individual or of an establishment 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 other persons or used for any other purpose (22 FR 1687).

Form HRS 3(d)-3

(Hospital) (City, State) (Medical Record No.)

20. ADMITTING DIAGNOSES OR COMPLAINT (Number 1, 2, 3, etc.)

21. FINAL DIAGNOSES OR COMPLAINT (Number 1, 2, 3, etc.)

OPERATIONS (Specify)

22. 00 - None

COMPLICATIONS (Specify)

1-No
23. 2-Yes

24. CONSULTATIONS (No. of Physicians)

01 - Not asked
25. ADMITTING HEIGHT (inches) 02 - Not answered

888 - Not asked
26. ADMITTING WEIGHT (lbs) 999 - Not answered

ADMITTING TEMPERATURE	1-99.0 or less	5-102.0-102.9	
	2-99.1 -99.9	6-103.0-103.9	9-Not asked
	3-100.0-100.9	7-104.0-104.9	0 - Not answered
27.	4-101.0-101.9	8-105.0+	

(Hospital) (City, State) (Medical Record No.)

28. LABORATORY TESTS AND THERAPIES:

URINALYSIS

HEMATOLOGY

SEROLOGY

BLOOD TYPE

X-RAY

CHEMISTRY

BACTERIOLOGY

GASTRIC STOOL

BODY FLUIDS

HISTOLOGY

FUNCTION (EKG, EEG, BMR)

THERAPIES

OTHER

Form HRS 3(d)-3

(Hospital) (City, State) (Medical Record No.)

NEWBORN

29. COLOR	1 - White 2 - Nonwhite	3 - Not asked 4 - Not answered
30. SEX	1 - Male 2 - Female	
31. AGE OF MOTHER	01 - Not asked 02 - Not answered	
32. BIRTH ORDER ITEM:	1 - "Live birth order" 2 - "Birth order"	3 - Neither asked
33. BIRTH ORDER (for either 1 or 2 of Item 32)	0Y - Not answered	
34. PREMATURITY?	1 - No 2 - Yes	
35. BIRTH WEIGHT (Gm.)		
36. BIRTH LENGTH (Cm.)		
BIRTH INJURIES (Specify) 37.	1 - No 2 - Yes 3 - Not asked	
MALFORMATIONS (Specify) 38.	1 - No 2 - Yes 3 - Not asked	
OTHER ABNORMALITIES (Specify) 39.	1 - No 2 - Yes 3 - Not asked	
DISCHARGE STATUS 40.	Alive: 1 - With approval; 2 - Against advice; 3 - Transferred; 4 - Other _____ Died (inc. Stillborn): 5 - Autopsy; 6 - No autopsy	

APPENDIX II
PILOT STUDY

Exhibit C. Conventional Abstract Form

CONFIDENTIAL - This information is collected under authority of Public Law 652 of the 84th Congress (70 Stat. 489; 42 U.S.C. 242 c). All information which would permit identification of an individual or of an establishment 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 other persons or used for any other purpose (22 FR 1687).

ABSTRACT OF PATIENT RECORD — HOSPITAL DISCHARGE SURVEY

1. Hospital Number

2. Patient Control Number

3. Medical Record Number

4a. Date of Birth — mo. day yr.

Complete 4b and c only if date of birth is not given

4b. Age

4c. Age is stated in: 1 - Years 2 - Months 3 - Days

5. Sex: 1 - Male 2 - Female

6. Color: 1 - White 2 - Negro 3 - Other nonwhite 4 - "Nonwhite" 5 - Not stated

7. Marital Status: 1 - Married 2 - Single 3 - Widowed 4 - Divorced 5 - Separated 6 - Not stated

8. Date of Admission — mo. day yr.

9. Date of Discharge — mo. day

10. Discharge Status: 1 - Alive 2 - Dead

11. Final Diagnoses:

12a. Was an operation performed? 1 - Yes 2 - No

12b. Operations:

Completed by Abstractor Date

PHS-4734-1
8-64

DEPARTMENT OF HEALTH, EDUCATION, and WELFARE
Public Health Service
National Center for Health Statistics

Form Approved: 68-R620. R2

Exhibit D. IBM Abstract Form

CONFIDENTIAL- This information is collected under authority of Public Law 652 of the 84th Congress (70 Stat. 489; 42 U.S.C. 242.c.). All information which would permit identification of an individual or an establishment 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 other persons or used for any other purpose (22 FR 1687).

PHS-4734-2
8-64

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS

Form Approved
Budget Bureau No. 68-R620.R2

1. HOSPITAL NUMBER

ABSTRACT OF PATIENT RECORD- Hospital Discharge Survey

2.	PATIENT NUMBER	0 1 2 3 4 5 6 7 8 9
3.	MEDICAL RECORD NUMBER	0 1 2 3 4 5 6 7 8 9
4.a.	DATE OF BIRTH	MONTH: J F M A M J J A S O N D
		DAY: 0 1 2 3 — TENS; 0 1 2 3 4 5 6 7 8 9 — UNITS
	Complete 4b and 4c if date of birth is not given.	YEAR: 1800 1900; 0 1 2 3 4 — TENS; 0 1 2 3 4 5 6 7 8 9 — UNITS
4.b.	AGE	TENS: 0 1 2 3 4 5 6 7 8 9; UNITS: 0 1 2 3 4 5 6 7 8 9
4.c.	AGE IS STATED IN	YEARS; MONTHS; DAYS
5.	SEX	MALE; FEMALE
6.	COLOR	WHITE; "NONWHITE"; NEGRO; NOT STATED; OTHER NONWHITE
7.	MARITAL STATUS	MARRIED; DIVORCED; SINGLE; SEPARATED; WIDOWED; NOT STATED
8.	DATE OF ADMISSION	MONTH: J F M A M J J A S O N D; DAY: 0 1 2 3 — TENS; 0 1 2 3 4 5 6 7 8 9 — UNITS; YEAR: 0 1 2 3 4 5 6 7 8 9
9.	DATE OF DISCHARGE	MONTH: J F M A M J J A S O N D; DAY: 0 1 2 3 — TENS; 0 1 2 3 4 5 6 7 8 9 — UNITS; YEAR: 0 1 2 3 4 5 6 7 8 9
10.	DISCHARGE STATUS	ALIVE; DEAD

IBM H91234

PATIENT NUMBER

0 1 2 3 4 5 6 7 8 9

11. FINAL DIAGNOSES:

12a. WAS AN OPERATION PERFORMED ? YES NO

12b. OPERATIONS:

COMPLETED BY ABSTRACTOR _____ DATE _____

FOR NCHS USE ONLY

DIAGNOSIS CODES

Y	0	1	2	3	4	(1)	5	6	7	8	9
Y	0	1	2	3	4	(2)	5	6	7	8	9
Y	0	1	2	3	4	(3)	5	6	7	8	9
Y	0	1	2	3	4	(4)	5	6	7	8	9
Y	0	1	2	3	4	(5)	5	6	7	8	9

OPERATION CODES

0	1	2	3	4	(1)	5	6	7	8	9
0	1	2	3	4	(2)	5	6	7	8	9
0	1	2	3	4	(3)	5	6	7	8	9

PHS-4734-2 (BACK)
8-64

IBM H91235

Exhibit E. NCHS "Fact Sheet"

Hospital Number 6703
Procedure A-1
Stratum Number 54
Sampling Digits 12, 42, 72

Name of Hospital
Address
Name of administrator
Telephone number

This is a church-owned general hospital. It maintains 371 beds and employs 688 persons. There are operating room and obstetrical delivery room facilities. The MFI reports a chronic disease ward with 30 beds. This hospital does not maintain a nursing home unit. The average length of stay is 10 days.

The hospital is accredited and is a member of the American Hospital Association. It is reported in the 1964 AHA Directory as having 10,494 admissions for the one year period ending September 1963. Using a sampling ratio of 3 out of 100, this office would expect about 315 patient record abstracts a year from this facility. An employee of the Bureau of the Census will abstract the data from this hospital and record it on conventional forms (PHS-4734-1).

Hospital Discharge Survey Branch
Health Records Statistics Division
NCHS
October 26, 1964

Exhibit F. AHA Letter to Hospital Administrator

Dear (Hospital Administrator):

The National Center for Health Statistics of the U.S. Public Health Service is inaugurating a national system of collecting statistical information from hospital medical records as part of the National Health Survey. The importance of such data in contributing to our knowledge about the Nation's health and in providing a basis for sound administrative decision-making cannot be overstated. The American Hospital Association has been cooperating with the National Center for Health Statistics in the conduct of the survey and through its Board of Trustees has endorsed the survey.

Your hospital has fallen into the probability sample developed by the National Center for Health Statistics. The purpose of this letter is to request your participation in the pretesting phase of the survey. The Public Health Service will make every effort to minimize the burden of reporting on the part of your hospital. An equitable basis for compensation will be arranged by the National Center for Health Statistics. All information collected will be given confidential treatment and will be used for statistical purposes only. Any published summary will be presented in such a way that no individual hospital or patient can be identified.

Dr. Forrest Linder, director of the National Center for Health Statistics, has informed me that within the next few days he will send you a more detailed statement concerning the survey. He will greatly appreciate your cooperation.

Without the cooperation of your hospital and others like yours, this important research effort cannot succeed. I, therefore, urge you to make every effort to cooperate in this survey.

Sincerely

Edwin L. Crosby, M.D.
Director

Exhibit G. NCHS Letter to Hospital Administrator

Dear (Hospital Administrator)

A few days ago, Dr. Edwin L. Crosby, Executive Director, American Hospital Association, requested your cooperation in the Hospital Discharge Survey to be conducted by the National Center for Health Statistics. He indicated that I would follow up his letter by sending you a more detailed statement concerning the plans and objectives of the Survey. This statement is enclosed.

The Hospital Discharge Survey will produce administrative and morbidity hospital statistics. The Survey will collect information for a sample of discharges in a national sample of short-term hospitals. In the remaining months of this fiscal year, a pilot study will be undertaken in order to try out alternative procedures for conducting the Survey.

Since your hospital was one of those randomly selected for the Survey we would like very much to discuss matters relating to participation of your hospital. Therefore, within the next several days, a representative of the Bureau of the Census, acting as an agent of the National Center for Health Statistics, will telephone you to arrange for an appointment. This meeting should not take more than an hour of your time.

The National Health Survey program, of which the Hospital Discharge Survey is a part, has been approved by the House of Delegates of the American Medical Association, and the Hospital Discharge Survey itself has been endorsed by the Board of Trustees of the American Hospital Association.

Your cooperation in this Survey will be very much appreciated.

Sincerely yours,

Forrest E. Linder, Ph.D.
Director

Enclosure

Exhibit H. Statement on the Survey

September 18, 1964

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Center for Health Statistics

THE HOSPITAL DISCHARGE SURVEY

The Hospital Discharge Survey will involve the continuing collection and analysis of national discharge statistics for short-stay hospitals. This survey is a part of the National Health Survey program of the Public Health Service. The National Health Survey is authorized by Public Law 652, also known as the National Health Survey Act, which was passed in 1956 by the 84th Congress. Earlier this year, the House of Delegates of the American Medical Association, impressed with the scientific objectivity of the National Health Survey, adopted a resolution approving the Survey program.

The short-term hospitals of the United States represent an enterprise of enormous proportions. Not only do they constitute a large industry employing about a million and a half persons and providing services valued at over $10 billion annually, but they are increasingly occupying a central position in the entire system of medical care in this country. At the same time, this hospital enterprise is undergoing significant changes. For example, the typical hospital is increasing both in size and complexity.

For these reasons, the utilization of hospitals is being studied more and more intensively by hospitals themselves in order to make better decisions regarding optimum use of the facilities. Furthermore, the medical records of the hospitals contain invaluable information regarding the relative frequency of occurrence of many diseases that are largely treated in hospitals.

To serve such broad needs as these, the National Center for Health Statistics (NCHS), the major statistical agency in the Federal Government responsible for the collection of health statistics, is undertaking the Hospital Discharge Survey. The Survey has been endorsed by the Board of Trustees of the American Hospital Association.

Initially, the information obtained for the sample discharges in the Hospital Discharge Survey will be limited to "core" data which in nearly all hospitals would be available from the face sheet of the patients's folder. The core data will include a few personal characteristics about the patient, such as sex and age, and it will also include admission and discharge dates as well as final diagnoses and operations performed. Several years hence it is likely that additional information about the sample discharges available from the hospital records would be collected. Information from hospital records will be posted on abstract forms provided by the NCHS and, depending upon the type of arrangement made with the individual hospital, the abstracting would be performed either by the hospital staff, agents of the Center, or possibly by both.

The Hospital Discharge Survey will most likely contain a national sample of several hundred short-stay hospitals widely distributed over the major regions of the country. The NCHS will make arrangements with each of the sample hospitals to participate in the survey. Several times during the year, the prescribed information will be abstracted for a scientifically selected sample of a relatively small number of discharges within each sample hospital. The participating hospitals would remain in the survey for several years before being replaced by other hospitals.

The abstracted information for the sample discharges will be transmitted to the NCHS where it would be processed prior to the preparation of statistical tabulations. Statistical analyses of the data on a national and geographical basis, but not for individual hospitals, would be prepared for publication by the Center and made available to hospitals and other interested parties. All information collected in the survey which would permit the identification of individuals or hospitals will be held strictly confidential and will not be published nor be disclosed or released to others for any purpose.

Exploratory work on developing the plans for the Hospital Discharge Survey was started last year. A more formal pilot study of some of the operational problems is being undertaken in a national sample of 100 hospitals at this time in order to try out alternative procedures for conducting the full Survey, which, according to present plans, will be started with these hospitals about July 1965.

Exhibit I. Hospital Interview Form

Form Approved: Budget Bureau No. 68-R620.R2

FORM NHS-HDS-2 X
(10-28-64)

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

HOSPITAL INTERVIEW

HOSPITAL DISCHARGE SURVEY

CONFIDENTIAL – This information is collected for the U.S. Public Health Service. 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.

Name and address *(Verify and correct as necessary)*

Procedure ☐ A ☐ B ☐ C ☐ D ☐ E

Abstract form ☐ 1 ☐ 2

Section A – SUMMARY OF TELEPHONE APPOINTMENT AND FIRST PERSONAL VISIT

1. Initial mail contacts

	Date sent	Received
a. American Hospital Association letter		☐ Yes ☐ No
b. National Center for Health Statistics letter		☐ Yes ☐ No

2. Telephone contact

a. Date of telephone contact → Date

b. Appointment made for personal visit

Date	Time a.m. p.m.
Name	Title
Room and building	

c. Medical Record Librarian → Name

d. Comments and important items discussed with Administrator on the telephone

3. Summary of personal interview with Administrator

a. Hospital cooperation – ☐ Unqualified cooperation ☐ Qualified cooperation *(Describe)* ☐ Refused to cooperate *(Describe)*

b. Contract Proposal – ☐ Signed and attached ☐ Not signed *(Explain)*

c. Final procedure agreed upon – ☐ A ☐ B ☐ C ☐ D ☐ E ☐ Other *(Describe)*

If additional space is needed for comments use the last page of questionnaire.

5. Interviewer

Name	Regional Office	Date form completed

USCOMM-DC

Section B – INTERVIEW WITH ADMINISTRATOR

You have probably had a chance to review the statement Dr. Linder sent you concerning the Hospital Discharge Survey. If you have any questions about the survey, I will try to answer them for you.

Before discussing the details of the survey, I must verify some information about – –.

1. Is it correct that – – is a

_____ **owned hospital?**

☐ Yes ☐ No *(Indicate correction)*

2.a. How many hospital beds are maintained for inpatient use, excluding bassinets?

_____(Number of beds)

b. How many bassinets are maintained?

_____(Number of bassinets)

c. If less than 25 beds in question 2a, ask:

Does – – provide around-the-clock nursing service by a registered nurse?

☐ Yes ☐ No

3.a. Approximately how many discharges were there from – – in 1963, excluding well-newborn?

_____(Number of discharges)

b. How many births were there in – – in 1963?

_____(Number of births)

4. What is the average length of stay for patients in – –?

_____(Number of days)

5.a. Is – – a hospital complex, part of a hospital complex, or neither?

☐ Complex ☐ Part of a complex ☐ Neither

b. If "Part of a complex," ask:

What is the name and address of the parent organization?

Name

Address

6. If "Complex" or "Part of a complex," enter the information requested at right for EACH separate unit.

Name		
Location (if different from that shown on address label)		
Type of service (e.g., tuberculosis unit, psychiatric unit, general hospital, etc.)		
Number of beds for inpatients		
Number of discharges in 1963		
Total patient-days or average daily census in 1963	Patient-days	Daily census
Average length of stay		

Does this unit maintain separate discharge records?
☐ Yes ☐ No – **How can the discharges from this unit be identified?**

Name		
Location (if different from that shown on address label)		
Type of service (e.g., tuberculosis unit, psychiatric unit, general hospital, etc.)		
Number of beds for inpatients		
Number of discharges in 1963		
Total patient-days or average daily census in 1963	Patient-days	Daily census
Average length of stay		

Does this unit maintain separate discharge records?
☐ Yes ☐ No – **How can the discharges from this unit be identified?**

Name		
Location (if different from that shown on address label)		
Type of service (e.g., tuberculosis unit, psychiatric unit, general hospitals, etc.)		
Number of beds for inpatients		
Number of discharges in 1963		
Total patient-days or average daily census in 1963	Patient-days	Daily census
Average length of stay		

Does this unit maintain separate discharge records?
☐ Yes ☐ No – **How can the discharges from this unit be identified?**

FORM NHS-HDS-2 X (10-28-64)

Section B – Continued

7. Is – – associated with any other establishment, such as a resident institution or a school, excluding medical and nursing schools?

☐ Yes ☐ No *(Skip to question 8)*

If "Yes," ask:

a. What is the name, address, and nature of the establishment with which – – is associated?

Name

Address

Nature

b. What type of service does the establishment named above provide.

c. Does – – limit its services primarily to the population of a resident institution?

☐ Yes *(Describe population served and services provided)* ☐ No

8. Does – – maintain a nursing home or nursing home unit?

☐ Yes ☐ No *(Skip to question 9)*

If "Yes," ask:

a. How many nursing home beds are maintained?

_____ (Number of beds)

b. Were these beds excluded from the count of hospital beds?

☐ Yes ☐ No

9. Does – – maintain a convalescent unit?

☐ Yes ☐ No *(Skip to question 10)*

If "Yes," ask:

a. How many convalescent unit beds are maintained?

_____ (Number of beds)

b. Were these beds excluded from the count of hospital beds?

☐ Yes ☐ No

c. Does the date of discharge on the hospital record refer to the date of discharge from the convalescent unit or to the convalescent unit?

☐ From convalescent unit ☐ To convalescent unit

Remarks

USCOMM-DC

Section B – Continued

10. I will outline briefly the steps in the survey. For a sample of patients, a limited amount of information will be abstracted to this form *(Show abstract form.)* As you can see, this information will generally be available on the medical record face sheet.

For a hospital of this size, the sampling ratio

will be _____ in _____, or about

_____ records in the course of a year –

approximately _____ records per day.

(Read Procedure _____ at right.)

INTERVIEWER:

Which procedure was finally agreed upon?

_____(Procedure)

Comments

_____

_____

_____

_____

11. Before I go to the next item, do you have any (other) questions on what has been covered?

☐ Yes *(Enter questions and your responses)* ☐ No

_____

_____

_____

_____

_____

_____

_____

_____

_____

PROCEDURE A – An agent of the Public Health Service will visit your hospital about once every 3 months, on a day and at a time convenient to your Medical Record Librarian. At that time we will select a sample of patients who have been discharged. This list will be left with the Medical Record Librarian so that the face sheet of the medical records for these sample patients can be ready for our next visit. On that second visit, we will abstract information from the face sheet of the medical records and select a new sample of discharges. On all succeeding visits, we will repeat the process – each visit lasting only a few hours. Once or twice a year, a representative of the Public Health Service will be in to review the work of the abstractor.

PROCEDURE B – An agent of the Public Health Service will visit your hospital about once every 3 months, on a day and at a time convenient to your Medical Record Librarian. At that time we will select a sample of patients who have been discharged. This list of cases will be left with the Medical Record Librarian so that the face sheet of the medical records for these sample patients can be ready for our next visit. We plan to copy all data except that relating to the diagnosis and operations. Before the time of our next visit, some member of your staff who is familiar with the handwriting of the physicians would be assigned by you to enter these medical items from the face sheet to the abstract form. If you prefer, this operation can be performed at the time of our visit. We will abstract the remaining data and select a new sample. On all succeeding visits, we will repeat the process – each visit lasting only a few hours.

In order to be sure that the procedure is working the same at all hospitals, we plan to have someone visit each hospital once or twice a year and review the sample selection and look at a few of the records that have fallen in the sample for previous months.

PROCEDURE C – Someone assigned by you or your Medical Record Librarian will select a sample of discharged patients according to instructions which we will provide. Based on all the discharges for one month, she will select a sample of patients and then abstract data from the face sheet to the abstract form. This can be done at a time convenient to you. The completed abstracts would be mailed to our regional office each month. We will provide the packet for mailing.

In order to be sure that the procedure is working the same at all hospitals, we plan to have someone visit each hospital once or twice a year and review the sample selection and look at a few of the records that have fallen in the sample for previous months.

INTERVIEWER: Should the Administrator object to the procedure assigned to this hospital, an alternative may be suggested, namely the priority 2 procedure as shown in the "Procedure" box on the front of the questionnaire.

FORM NHS-HDS-2 X (10-28-64)

Section B – Continued

12. **The National Health Survey officials have a uniform reimbursement fee in accordance with the manner of abstracting data, taking into consideration the number of records that could be abstracted per hour. For this hospital, the amount is set at:**

(If item 1-A is proposed) _____ **per year.**

(If item 1-B or 1-C is proposed)

_____ **per completed abstract or about**

_____ **per year.**

This amount will be subject to renegotiation if it proves to be inequitable.

In order for reimbursement to be made by the Public Health Service, they require a contract, which will be mailed to you shortly for your signature. In the meantime, I must provide them with information on which to base the contract. This is in the form of a contract proposal.

(Complete contract proposal, Form PHS-4734-4, based on the agreement reached in the discussion of the procedures. Fill all applicable sections of the proposal, sign, and present it to the administrator for his signature. Any problems in obtaining the signature or any questions asked about the proposal should be noted below.)

☐ Signed ☐ Not signed

Thank you very much – –. Now I would like, if I may, to meet with your Medical Record Librarian.

Remarks

USCOMM-DC

Section C – INTERVIEW WITH MEDICAL RECORD LIBRARIAN

INTERVIEWER:
Introduce self and explain survey as follows – –

Briefly, the survey involves the collection of a limited amount of information from the records of a SAMPLE of patients discharged from short-term hospitals. All, or nearly all, of the information will be available from the face sheet of the patient's chart. This is the abstract form which will be used. *(Show form PHS-4734-1 or 4734-2.)*

INTERVIEWER:
If Medical Record Librarian was not present during the explanation of the procedure, explain the procedure agreed upon by the administrator.

As I said, we will abstract the records of only a sample of patients discharged from the hospital. For this hospital it will be about _____ cases a month.

1.a. What medical record numbering system is used in – –?

☐ Serial ☐ Unit ☐ Serial-unit
☐ Other *(Describe)*

_____

_____

_____

_____

_____

_____

b. Does a newborn infant receive the same number as the mother?

☐ Yes ☐ No *(Skip to question 2)*

c. Is an infant assigned a new number if he remains in the hospital after the mother is discharged?

☐ Yes ☐ No

2. In order to select the sample, we will need to work with a list showing the medical record number of patients who were discharged from – – during a given month. We know that these listings vary from hospital to hospital; for example, some hospitals maintain a "daily analysis of hospital service," while others have a "daily admission and discharge list". What kinds of discharge lists are maintained in – –?

May I go over them with you?
(Review discharge lists and enter information requested to the right for each list.)

1 Title and/or form number

Is the list a complete count of each day's discharges from – –? ☐ Yes ☐ No
If "No," describe exceptions and how they are handled.

_____

Is the date of discharge shown on the list? ☐ Yes ☐ No

Is discharged patient's medical record number shown on the list? ☐ Yes ☐ No

If this is a daily listing, can the listing for a calendar month be made available? ☐ Yes ☐ No

About how long is the list retained by the hospital?
☐ 1 year or more **OR** _____ (No. of months)

How is the list compiled?

2 Title and/or form number

Is the list a complete count of each day's discharges from – –? ☐ Yes ☐ No
If "No," describe exceptions and how they are handled.

_____

Is the date of discharge shown on the list? ☐ Yes ☐ No

Is discharged patient's medical record number shown on the list? ☐ Yes ☐ No

If this is a daily listing, can the listing for a calendar month be made available? ☐ Yes ☐ No

About how long is the list retained by the hospital?
☐ 1 year or more **OR** _____ (No. of months)

How is the list compiled?

INTERVIEWER:
1. If – – maintains more than one discharge listing, in your opinion, which one should be used to select the sample?

_____

_____

2. Describe any supplemental listings which should be used.

_____

_____

3. Attach two blank copies of all "discharge lists" maintained by – –.

FORM NHS-HDS-2 X (10-28-64)

Section C – Continued

3. a. In addition to the usual inpatient discharges, we want to be sure that we **INCLUDE** certain other classes of patients in the survey. Are the following included in the list of discharges (i.e., the list to be used for sampling as described in question 2) – –

1. Inpatients admitted, assigned a bed, and discharged later that day, either with or without approval? . . . . . ☐ Yes ☐ No

2. Newborn infants discharged after having been admitted to a pediatric or special care ward of the hospital – those not discharged with the mother? . . . . . ☐ Yes ☐ No ☐ NA

3. Inpatients who died in the hospital? . . . . . ☐ Yes ☐ No

4. A patient discharged to another hospital? (Sometimes spoken of as a "Transfer" to another hospital) . . . . . ☐ Yes ☐ No

5. To be asked only if this is a hospital complex
A patient transferred from one unit of this complex to another unit where the units maintain separate and distinct records? . . . . . ☐ Yes ☐ No ☐ NA

b. If "No" to any, ask:
Is a separate listing of these cases available?

☐ Yes ☐ No

(Describe the list, and/or explain the circumstances.)

4. a. There are other classes of patients we wish to **EXCLUDE** from our sample. Are any of the following included in the list of discharges – –

1. Well-newborn infants discharged at the same time as the mother? . . . . . ☐ Yes ☐ No ☐ NA

2. Persons dead on arrival? . . . ☐ Yes ☐ No

3. Fetal deaths? . . . . . ☐ Yes ☐ No

4. Outpatients? . . . . . ☐ Yes ☐ No

5. Patients who die in the emergency room, not having been admitted as inpatients? . . . . . ☐ Yes ☐ No

6. Emergency patients who die in the operating room not having been admitted prior to death? . . . . . ☐ Yes ☐ No

7. Patients transferred from one service or room to another but not actually discharged from the hospital? . . . . . ☐ Yes ☐ No

8. Patients given a pass to leave the hospital for a short period of time but not actually discharged from the hospital? . . . . . ☐ Yes ☐ No

b. If "Yes" to any, ask:
How can they be identified in the list?
(Describe)

5. Summary description of lists to be used in sampling frame

a. What discharges appear on the primary list?

b. What discharges appear on the supplemental list(s)?

USCOMM-DC

Section D – A AND B PROCEDURE HOSPITAL SAMPLE SELECTION

INTERVIEWER:

Draw the sample of discharges for calendar months July, August, and September and prepare an original and one copy of form PHS-4734-5 as instructed in the Sampling Instructions. Also note any difficulties you encountered applying these instructions.

Leave a copy of the list of sample cases from which you will be abstracting data from the face sheets on your next visit.

1. When would be the best time of day for someone to come and do the abstracting?

_____ (Time of day)

2. Do you have a preference as to day of the week or time of month for our visit?

_____ (Day)

_____ (Time of month)

3. *INTERVIEWER:*

Enter date and time for next visit

_____ (Date)

_____ a.m. / p.m. (Time)

4. At that time, will you be able to have the medical records of the sample cases available and the face sheets checked for completness?

☐ Yes ☐ No *(Arrange suitable time for visit and correct entry in question 3.)*

5. About one week before our visit, we will telephone you to confirm our appointment. If you are busy or absent, who should I talk to about this?

Name

Title

6. a. In the future, would you prefer that we work with someone in your department other than yourself?

☐ Yes ☐ No

b. (If "Yes") With whom would you like us to work?

Name

Telephone No.

Room No.

INTERVIEWER:

At B Procedure hospitals, leave with the Medical Record Librarian (or her representative) the instructions for abstracting medical items; i.e., final diagnosis, operations, etc.

Remarks

FORM NHS-HDS-2X (10-28-64)

Section E – C PROCEDURE HOSPITAL SAMPLE SELECTION

INTERVIEWER:

Proceed with the sampling, working with the Medical Record Librarian. You may want to ask the Medical Record Librarian to draw the sample as you observe and verify. Answer any questions she might have about the sampling procedure. Review the abstract form with the Medical Record Librarian and observe as she abstracts a few records. Explain the procedure for transmitting completed abstracts. Leave a copy of the Manual for Medical Record Librarians. Explain that you will return next month to assist in drawing the next sample and to help in abstracting the required information; but, after that you will only return once or twice a year to be sure that the procedure is working the same in all hospitals in the survey and to answer any questions that she might have.

1. When would be the best time for my visit next month?

_____ (Time of month)

2. Do you have a preference as to day of week or time of month for my visit?

_____ (Day)

_____ (Time of month)

3. *INTERVIEWER:*

Establish date and time for next visit.

_____ (Date)

a.m.
_____ p.m. (Time)

4. If you are busy or absent, who should I talk to about this?

Name

Title

Remarks

Section F – SAMPLE ABSTRACTING OF MEDICAL RECORDS FACE SHEETS (A, B, and E Procedure Hospitals Only)

Before I leave, I would like to look at a few of the medical records – just the face sheets – to see if the information which we need is on the face sheet and to see whether there will be any problems in copying the information to the abstract form.

INTERVIEWER:

Abstract a minimum of six medical record face sheets and transmit the abstract forms (form PHS-4734-1 or 4734-2) along with the other material and two blank copies of the face sheet. If any information requested on the abstract form is missing from the face sheet, inquire where such information might be obtained.

If the face sheet appears to contain abbreviations or coded entries in lieu of written-out entries, obtain a list of definitions for these abbreviations and codes.

Remarks

Exhibit J. Memorandum of Agreement

CONFIDENTIAL-The medical record information that is obtained under this proposal is collected under authority of Public Law 652 of the 84th Congress (70 Stat. 489; 42 U.S.C. 242 c). All information which would permit identification of an individual or of an establishment 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 other persons or used for any other purpose (22 FR 1687).

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service
National Center for Health Statistics
Washington, D.C.

CONTRACT PROPOSAL FOR SERVICES IN CONNECTION WITH SELECTING AND COPYING HOSPITAL RECORDS

I. Service to be provided

☐ A. The hospital makes available to the National Center for Health Statistics a listing of patient discharges from which NCHS will select a sample of case records and the NCHS representative will abstract the required data.

☐ B. The hospital makes available to the National Center for Health Statistics a listing of patient discharges from which NCHS will select a sample of case records. The hospital abstracts the medical information and makes the case records available to NCHS for completing the abstract form.

☐ C. The hospital selects a sample of patient discharges from a listing of such discharges and abstracts required data for NCHS.

☐ D. Other (Specify in detail) _____

_____

_____

II. Reimbursement of Cost

☐ A. Payment will be made to the hospital in the total sum of $_____ for fiscal year_____.

☐ B. Payment will be made to the hospital at the rate of _____ cents per abstracted record.

☐ C. No payment will be made to the hospital.

☐ D. Other (Specify) _____

_____

III. Schedule of Payment

☐ A. Payment is to be made at the end of the fiscal year.

☐ B. Other (Specify) _____

IV. Payee will be (exact information to appear on contract and check): _____

_____

_____

V. Hospital coordinator of this project will be: Name _____

Title _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE OF HOSPITAL

SIGNATURE OF AUTHORIZED REPRESENTATIVE OF NCHS

Date _____

Comments _____

_____

_____

PHS-4734-4
10-64

Form Approved
Budget Bureau No. 68-R620.R2

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