

# **Uniform Hospital Abstract: Minimum Basic Data Set**

**A Report of the United States National  
Committee on Vital and Health Statistics**

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**U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service**

**Health Resources Administration  
National Center for Health Statistics  
Rockville, Maryland**



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Letter of acceptance of the report on the *Uniform Hospital Abstract: Minimum Basic Data Set* to the present Chairman of the U.S. National Committee on Vital and Health Statistics.

December 5, 1972

Abraham M. Lilienfeld, M.D.  
Chairman, U.S. National Committee  
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Dear Dr. Lilienfeld:

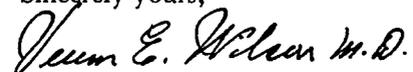
It is with pleasure that we accept the report, "Uniform Hospital Abstract: Minimum Basic Data Set," as prepared by the U. S. National Committee on Vital and Health Statistics. The Committee and the subcommittee which it assigned to the project are to be congratulated for the completeness and high caliber of this report. The included recommendations on concepts, definitions, and procedures for a minimal uniform hospital discharge abstract data set represent a major achievement and should contribute substantially to better health care by providing the framework for improving hospital information systems and reducing hospital reporting burdens.

In implementing these recommendations, certain operational problems will undoubtedly arise. Many of these can be anticipated by the field tests of the Committee's recommendations which are currently under way by the National Center for Health Services Research and Development in eight areas. These efforts should provide important testing of the recommendations and perhaps suggest directions for continuing improvements in a minimal uniform abstract data set.

Based on the deliberations of your subcommittee and the various correspondence on the subject, it is clear that "total charges" as recommended by the 1969 Airlie House Conference are essential to any sound hospital information system even though this item has been omitted from the Committee's basic data set. Total charges are given in all completed billing forms and the item is presumably not needed as a separate entry on the medical abstract itself. Hopefully, experience gained in the combination of the basic data set and bill data will help resolve the issue of whether the charges item should appear on both the uniform hospital discharge abstract and the standard hospital billing form (see "Expansion of Data Set to Meet Special Needs," item 16, Charges, p. 16 of this Report).

We shall carefully study all of the Committee's recommendations and the results of experience with use of the recommended minimum items. Based on this study, we will then incorporate as many recommendations as possible and appropriate in such ongoing Health Services and Mental Health Administration programs as the National Center for Health Statistics' Hospital Discharge Survey.

Sincerely yours,



Vernon E. Wilson, M.D.  
Administrator, Health Services and  
Mental Health Administration

## FOREWORD

This report, prepared under the auspices of the U.S. National Committee on Vital and Health Statistics, considers the purposes which would be served by data on patients discharged from hospitals and the minimum basic set of data items which it should be feasible to record and which would serve most of these purposes. The importance of having data available on hospitalized patients is underscored by the large volume of medical service rendered in hospitals—about 30 million patients per year—and the high and increasing cost of hospital care.

In addition to specifying the minimum basic data set the report provides definitions of each item and classifications of the information which would be recorded.

Forrest E. Linder, Ph. D.  
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# UNIFORM HOSPITAL ABSTRACT: MINIMUM BASIC DATA SET

## SUMMARY OF RECOMMENDATIONS

The Uniform Hospital Abstract Subcommittee of the U.S. National Committee on Vital and Health Statistics recommends that the following items constitute the minimum basic data set for hospital discharge abstracts:

### 1. Person Identification

Each patient is to be assigned a unique number within a hospital that distinguishes him from all other patients in that hospital.

### 2. Date of Birth

Month, day, and year of birth.

### 3. Sex

Male or female.

### 4. Race

White, Black, and other.

### 5. Residence

ZIP Code

### 6. Hospital Identification

A unique number within a data collecting system.

### 7. Admission Date

Month, day, year, and hour (00-23) of admission.

### 8. Discharge Date

Month, day, year of discharge.

### 9. Attending Physician

The physician who was primarily responsible for the care of the patient from the beginning of this hospital episode. (To be identified only by his unique number within the hospital.)

### 10. Operating Physician

This is the physician who performed the principal procedure. (To be identified only by his unique number within the hospital.)

### 11. Diagnoses

All diagnoses that affect the current stay. Principal diagnosis is to be designated and is defined as : The condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care. Other diagnoses to be listed are: All conditions that exist at the time of admission or develop subsequently which affect the treatment received and/or

the length of stay. Diagnoses that relate to an earlier episode which have no bearing on this hospital stay are to be excluded.

## 12. Procedures and Dates

All procedures performed in operating rooms are to be reported with the dates. In addition to these procedures, all other significant procedures are to be recorded with the dates. A significant procedure is one which carries an operative or anesthetic risk or requires highly trained personnel or special facilities or equipment. Some examples of such procedures are: Cardiocatheterization, angiography, endoscopy, and supervoltage radiation therapy.

When more than one procedure is recorded, the principal procedure is to be designated. In determining which procedure is the principal, the following criteria apply:

- (a) The principal procedure is one which was performed for definitive treatment rather than one performed for diagnostic or exploratory purposes, or was necessary to take care of a complication.
- (b) The principal procedure is that procedure most related to the principal diagnosis.

## 13. Disposition of patient

- (a) Discharged to home (routine discharge)
- (b) Left against medical advice
- (c) Discharged or transferred to another organization
- (d) Discharged or referred to an organized home care service
- (e) Died

## 14. Expected Principal Source of Payment (select one)

- (a) Self-pay
- (b) Workmen's compensation

- (c) Medicare
- (d) Other government payments (including CHAMPUS, Medicaid)
- (e) Blue Cross
- (f) Insurance companies
- (g) No charge (free, charity, special research, or teaching)
- (h) Other

The Subcommittee makes a number of other recommendations, chief among them being:

1. Hospitals should develop procedures by which a copy of the discharge abstract that includes the items in the minimum basic data set is forwarded to the business office for combination with the patient's bill to support a claim for reimbursement by third-party payers.
2. Central abstract agencies should incorporate the minimum basic data set into their systems. These agencies along with community health agencies—health councils, comprehensive health planning agencies, hospital councils—should promote the collection of abstracted data from all hospitals in their areas and encourage maximum use of the assembled data for the stated purposes.

## INTRODUCTION

Thirty million patients enter the Nation's 6,500 short-stay general hospitals each year. These patients reflect a high concentration of difficult diagnostic problems, intensive treatment regimens including surgery, and life-threatening illness. A substantial fraction of the total burden of disease and illness, both acute and chronic, is cared for in general hospitals.

About 45 percent of all expenditures for personal health care are for care in hospitals of all types and their outpatient services; as compared with 22 percent for private physicians' services.

Expenditures for hospital care (29.6 billion in fiscal year 1971) and the proportion of the total expenditures for health services are rising faster than for any other component of health services. Payment for hospital care is largely

through governmental programs (50 percent) and private insurance (36 percent) rather than through direct payments by patients (13 percent).<sup>1</sup>

Thus, a large and costly segment of health services is provided through one set of institutions and most of the payments for the cost of these services are provided through another set of institutions. This offers the possibility of introducing a substantial degree of standardization and simplification of the mechanisms by which claims for payment are prepared and in the demographic, diagnostic, and medical services data which justify payment of claims. In this process a valuable set of standard data on hospital patients would be recorded which is useful for community planning, hospital administration, patient management, and research purposes.

Data on health services can be collected either from the providers or from the recipients of services. The latter approach usually employs household sample survey techniques and can secure information on all types of services received by a defined population. It cannot supply useful data on services received in a local area or from an individual institution except at substantial cost. The information which can be obtained through interview surveys on diagnosis and on specific services received is generally not of good quality. Data collected from the providers of service, on the other hand, are more specific, of higher quality, and can be obtained from records at much lower cost. If they are secured from all providers of a particular type of service in an area it is possible to relate the services to the population of the area, as in the survey approach.

Among the major providers of health services, hospitals are the group from which it is most feasible to collect diagnostic and patient services data on a continuing basis. Information on patients discharged from hospitals is now being collected by the following organizations: (1) for a national hospital sample by the Hospital Discharge Survey, National Center for Health Statistics, (2) for the majority of hospitals in several local areas by central medical abstract agencies, and (3) for a large number of hospitals across the Nation by the Commission on Professional and Hospital Activities. Similar but less detailed information is collected periodically

on a sample census of patients in long-term care institutions. Data on patients living at home and on the care they receive from private physicians and outpatient services are generally not available.

Hospital discharge data, their uses, and methods of collecting them were the subject of a national conference in June 1969 which was sponsored by The Johns Hopkins University, the National Center for Health Statistics, and the National Center for Health Services Research and Development. The Conference considered the requirements of public and private insurance systems for diagnostic and patient services data in support of individual claims for payment; the needs for statistical data on groups of patients for planning, administrative, patient management, and research purposes; and the existing systems for recording and assembling information on discharged hospital patients for both kinds of purposes. Twenty-five working papers presented to the Conference and a review of the Conference deliberations and recommendations have been published.<sup>2</sup>

A major conclusion of the Conference was that a wide variety of purposes could be served if a limited number of standard items of information were available on all patients discharged from hospitals, and that it was feasible to propose that "a minimum basic data set" on all patients be routinely recorded in a uniform manner. A list of the items of information which should be considered for inclusion in the minimum basic data set was suggested. It was recognized that for certain purposes, mainly those related to studies of patient management and to some kinds of research, the data set would be the starting point for selection of cases for further study rather than being all the information that would be required. In addition, the minimum basic data set might have to be augmented to serve special needs at particular times in local areas.

The U.S. National Committee on Vital and Health Statistics was asked to establish a Subcommittee to study in detail the uses of hospital discharge data and to recommend the items of information which should be included in the minimum basic data set and the definitions and classifications to be applied in recording the information. It was further proposed by the Conference

that the National Center for Health Services Research and Development develop a plan for testing the feasibility of recording the data specified by the Subcommittee in field tests, and the suitability and usefulness for the various purposes of the items of information recorded.

This report reflects the Subcommittee's deliberations and conclusions regarding the minimum basic data set for a uniform hospital discharge abstract. The preliminary experience of the field tests has also been considered by the Subcommittee and is reflected in this report.

## OBJECTIVES AND APPROACH

The starting point for the Subcommittee's consideration of a minimum basic data set was a review of the items of information now being recorded on (1) the claims forms of the major third-party payers for hospitalization and (2) the abstract forms of the medical abstract agencies. These were studied in relation to the essential functions of hospital discharge abstract systems which had been summarized by the Conference as follows:<sup>3</sup>

1. To provide data for periodic review of patient management patterns;
2. To provide data for efficient and economical hospital management;
3. To relate charges for hospitalization to diagnostic and individual patient information;
4. To provide data for community and regional health planning bodies;
5. To provide data for health services and epidemiological research; and
6. To provide a common insurance claims form for use by private insurance carriers, Blue Cross, and the Social Security Administration.

Some items of information about the discharged patient are essential to nearly every anticipated use of the data, e.g., age and sex. Other items would be essential for particular uses of the data, e.g., specific surgical and other procedures and the dates on which they were per-

formed. The decision to include an item in the minimum basic data set rests on the judgment as to its essentiality for particular purposes and the relative importance of those purposes.

The availability of particular items of information in the records of most hospitals was taken as a constraint on the minimum basic data set, that is, the Subcommittee did not include items which would require most hospitals to set up new procedures for securing information. Problems which might be encountered in extracting information from the existing record did not preclude the inclusion of a particular item, because these problems could be evaluated in the field test.

Requirements of third-party payers for information about individual patients—personal characteristics, diagnoses, and services received—were determined from the claims forms currently in use, from model forms being considered for adoption, and from the personal knowledge and experience of members of the Subcommittee. For items of information not required in the payment process the experience of the medical abstract agencies was given great weight. These agencies provide service to participating hospitals in the areas of hospital management, patient management, and medical record indexing; to community planning agencies through the preparation of hospital utilization statistics; and less frequently to investigators carrying out epidemiological and medical care research. Some abstract agencies exercise these functions under their own auspices.

Hospital utilization statistics are a valuable product of an abstracting system, especially when they relate to a defined population. Utilization rates by age, sex, ethnic group, and residence, for example, provide an information base for planning future hospital care needs both for the community and for individual hospitals. When classified by diagnosis they also supply a picture of a major segment of morbidity.

The major role of public and private insurance carriers in paying for hospital care offers the potential for widespread adoption among the Nation's hospitals of a uniform hospital discharge form coupled with a common billing form to constitute a claims form with substantial savings in the cost of preparing and processing

claims. For this and other reasons the Subcommittee attached a great importance to the words "minimum" and "basic" in selecting items of information for inclusion in the minimum basic data set for the uniform hospital abstract form.

## GENERAL CONSIDERATIONS IN A PATIENT DATA SYSTEM

### Source and Quality of Data

The organization and the quality of medical records varies widely among hospitals. Their orientation is primarily toward the establishment of diagnosis and treatment of disease and secondarily toward the condition or functional status of the patient. In most hospitals a summary is prepared at or after the discharge of the patient. These differ among hospitals as to content and within hospitals as to the care with which they are prepared.

In many hospitals there is a Medical Record Committee whose responsibilities include advising and supporting the medical record administrator in efforts to upgrade the completeness and accuracy of hospital records. These activities should be continued and extended. It is recommended that hospitals actively support the recruitment and training of personnel for the medical records department—administrators, technicians, and clerical staff.

Present practice in preparation of insurance claims in many hospitals is for staff of the business office to secure and record the diagnostic and procedures data needed to support the claim. The information so obtained is often inaccurate and incomplete. Preparation of the hospital discharge abstract by staff of the medical records department and its use as an integral part of the insurance claim will provide better documentation and facilitate the payment procedure.

The primary source of data for the hospital discharge abstract will be the individual patient medical record. Preparation of the abstract should be fitted into the routine procedures and normal flow of work of the medical records department. It is likely that in many hospitals the abstract form will be combined with, or take the place of, discharge summary and/or record face sheets now in use. It is recommended that

plans be worked out for the completion of discharge abstracts promptly upon discharge of the patient.

It is expected that the recording of the data on the discharge abstract form, its use as part of the claim, and for statistical purposes will bring about improvement in the quality and reliability of information. Participation by a hospital in a central medical abstract system produces a strong incentive for improvement of data because of the quality control efforts of the abstracting agency operating through day-to-day contacts with the individual participating hospital.

### Maintaining Confidentiality of Information

Patients generally authorize the release of information by the hospital to the insurance carrier designated by the patient either on admission to the hospital or when contracting for the insurance coverage. The Subcommittee's concern with invasion of privacy and confidentiality of information therefore relates only to use of the hospital discharge abstract by other agencies, such as central abstract services.

The primary concern is with maintenance of confidentiality of information about patients or conversely the use of such information outside the hospital in a way which reveals the identity of the individual patient. Physicians, and to a lesser extent hospitals, are sensitive about statistical data on groups of patients cared for by the physician or the hospital.

Two simple methods of maintaining the confidentiality of information about individual patients which is in the hands of an abstracting agency are (1) for the patient to be identified only by number (to maintain control of records and enable backtracking to the hospital record to correct errors) and (2) for the abstract agency to be made for this purpose, an extension of the hospital's medical records department and subject to the hospital policies on release of information about individual patients.

The Subcommittee recommends use of a unique identifying number rather than the patient's name in the minimum basic data set as the method least likely to engender problems in maintaining confidentiality of information. In local areas where the functions of a central abstracting agency require the patient's name, e.g.,

in preparing lists of patients admitted to hospitals by particular physicians as part of the agency's service to hospitals, a suitable mechanism for maintaining confidentiality should be worked out between the abstracting agency and the hospitals which it serves.

As hospitals assume more of the characteristics of community health agencies, statistical data on the numbers and characteristics of the patients they serve become of more interest and concern to the community health planning bodies and to the public. Major third-party payers, welfare departments, and organized consumer groups need and get access to this kind of information. The same trends apply, to a less degree and less universally, to data on the hospitalized patients of private physicians.

The experience of central abstracting agencies with respect to maintaining confidentiality of statistical data on the patients of hospitals is variable. Some report data on all hospitals while others release data on a particular hospital only to the hospital concerned. The Subcommittee considers that most such data are matters of community concern and recognizes that unnecessary restrictions on the use of data can be a handicap to community planning agencies and in fact to individual hospital administrations which can benefit from knowing the experience of other institutions.

The Subcommittee has concluded that while the desire to restrict use of data on individual hospitals is generally decreasing, and rightly so, the arrangements for use of data in a local area must be mutually satisfactory to the hospitals and the central abstract agency. It therefore recommends that a hospital be identified on the uniform hospital discharge abstract by a unique number only and that decisions on dissemination of information about the patients of hospitals be left to the option of the parties concerned. A similar recommendation is made with respect to the physician. The abstract agency would of course have keys to the numbers for both hospitals and physicians and so could produce data on patients classified by the pertinent characteristics of hospitals (e.g., type of control, bed size) and physicians (e.g., type of practice).

Protection of confidentiality of information about patients is of course the major concern.

This issue had been expounded in the report of the Conference on Hospital Discharge Data<sup>4</sup> and the report of the Twentieth Anniversary Conference of the U.S. National Committee on Vital and Health Statistics.<sup>5</sup>

### **Authorizations for Release of Information and Assignment of Benefits**

It would not be feasible to get patients' signatures authorizing release of information to third parties (insurance carriers and central abstract agencies) after completion of uniform hospital abstracts. This raises the question of whether such third parties would accept an affidavit by the hospital that authorizations are on file for release of information and for assignment to the hospital of benefits due from insurance carriers on behalf of the patient.

The Subcommittee's opinion was that an affidavit by the hospital would be acceptable to both central abstract agencies and insurance carriers. This was supported by an informal legal opinion with respect to private insurance companies that an affidavit would be acceptable, with the proviso that the hospital accept responsibility for the return of payments improperly made by the carrier on the basis of the affidavit. The Subcommittee therefore recommends that hospitals secure an authorization by the patient for release of information separate from the uniform hospital abstract. This authorization should be part of an integrated system of authorization secured by the hospital which includes authorization for assignment of benefits to the hospital.

## **CONTENT OF UNIFORM HOSPITAL ABSTRACT DATA SET**

### **Criteria for Inclusion of Items of Information**

The Airlie House Conference had identified the existence of "a basic core of information of common interest to all users," and had concluded that "it would be desirable to collect this information in a uniform or compatible manner."<sup>6</sup>

Hence a number of criteria guided the selection and definition of the data set:

1. *The item was one considered useful to most if not all the potential users.* In identifying the potential users, the Airlie House Conference report listing was utilized: "at least five important groups could be identified who are dependent upon adequate hospital statistics: hospital administrators seeking to run efficient and economical services and to satisfy legal and professional requirements; medical staff responsible for patient management and the quality of care rendered; a variety of State, regional, and national planning groups and legislative bodies; private and public third-party payers; and researchers."<sup>7</sup>

In short, the first criterion was utility. Unless substantially all the potential users required the data items on a routine on-going basis, it was considered desirable to relegate an item to the optional category, i.e., "data more efficiently collected by occasional studies or samples."<sup>8</sup> Such data might be collected in a specific local setting or for a limited period of time to provide refinement of a basic data item for a specific purpose.

2. *The item was one which could readily be collected with reasonable accuracy.* As stated in the Airlie House Conference Report: "Feasibility was a major consideration in the choice of specific elements for inclusion... These should be for the most part data collected regularly as part of the on-going operations of the hospital, and relevant to the operational needs of the hospital and its staff... Ease of collection and demonstrated usefulness to the hospital greatly affect the care with which the data are recorded."<sup>9</sup>

It was recognized that the medical records department of the hospital was to be the site in which abstract data were to be gathered. They would be gathered from the source document with which this department normally deals, i.e., the patients' medical record. Unless data for the basic set were to be found in the medical rec-

ord or a feasible means identified for an item to be routinely recorded in the medical record, an item could not be considered as a basic data item.

3. *The item should not duplicate data available from other sources.* Since an objective in developing the data set was to provide demographic, diagnostic, and medical service data which, when coupled with the financial information required could serve the role of supporting a claim for reimbursement, data items were not considered which were normally collected as a business office function. Only such identifying data as would be required for linkage of the two data sets would be common to both. Throughout the deliberations of the Subcommittee, relegation of data items to the respective data sets was made in order to arrive at the most efficient and most accurate data collection system resulting from the eventual combination of items from the respective sources.
4. *Confidentiality of medical information should be preserved.* Both ethical and in some areas legal requirements to maintain confidentiality of information concerning individuals guided the Subcommittee in the consideration of each data item. The need to provide data on individual experiences can be compatible with the need to protect the identity of the individual involved and the data items in the basic data set were selected with this factor in mind. The basic data set standing alone should not permit identification of specific individuals. In those instances where the data set would be utilized to support claims data, the requisite authorizations to release medical information would be required. Similarly, means are provided for the identification of individual patients by those authorized to deal with such information, while preserving anonymity for those data users for whom identification of specific individuals is neither necessary nor authorized.

## The Items Constituting the Minimum Basic Data Set

With the above criteria in mind, i.e., utility, feasibility, nonduplication, and confidentiality, the specific data items and their definitions are presented along with comments concerning alternatives considered and the rationale for the choices made.

1. *Person identification.* Each patient is to be assigned a unique number within a hospital that distinguishes him *and his hospital record* from *all others* in that hospital.

*Comment:* As a basic need, each abstract must identify a unique individual and his record in the hospital so that the hospital record may be retrieved for closer study if required. If the abstract data are also to be used to support claim data, a unique number to identify both this and the companion record is required. Normally hospitals use the medical record number for these purposes.

At this point in time all hospitals do not yet possess a unit record system that permits retrieval of all previous records of the patients' case within the specific facility. In no community is there a means for examining admissions to multiple facilities through a unique numbering system yet developed. These are both desirable objectives.

The Subcommittee feels that in time the individual's Social Security Number should replace individual hospital numbers, individual insurer's numbers and the like. At present, utilizing the Social Security Number of the head of household with a suffix for other household members could provide an easily implementable system for all type of patients' identification and allow, for example, for the assignment of numbers at birth which would be retained until the individual became a head of household or a member of another household. For most pur-

posés, record linkage to this extent would satisfy current needs.

Thus, the Subcommittee chose to identify the need for a unique number and couples this with the suggestion that serious consideration be given to the adoption of the head of household's Social Security Number with a one digit letter suffix to identify all members of the family unit as the number to be utilized.

2. *Date of Birth.* Month, day, and year of birth.

*Comment:* The age of each individual receiving hospital care is an important piece of data required for a variety of purposes. Precision in obtaining this information is increased if date of birth is recorded and for such items as eligibility for age-related benefits the date on which eligibility is established may be most important. Also, if errors occur in recording of the unique number (item 1 above) birth date may be helpful in matching records.

Finally, birth date remains constant over time, while age, obviously changes annually.

3. *Sex.* Male or female.

*Comment:* None should be required on this item, except that there are some instances in which the sex of the patient either has not or cannot be determined. It is presumed that coding systems would provide for an "undetermined" category, but that it should be possible to collect this data item accurately except in the most unusual circumstances.

4. *Race.* White, Black, and other.

*Comment:* The accepted classifications of the U.S. Bureau of the Census for race are considered to be the ones to be utilized in a basic data set in order to provide uniformity and comparability of these data with the demographic characteristics of population data. There is a need for such data to examine disease and utilization patterns.

In specific localities where a significant number of members of a particular racial or ethnic group exist and it is desirable to develop separate data for these groups, supplementary categories may be utilized so long as the data may be recombined into the above three categories for comparability with data obtained elsewhere. It would be expected that in the use of a local option, the standard set of classifications developed by the U.S. Bureau of the Census would need to be utilized in order to assume comparability.

5. *Residence.* ZIP code.

*Comment:* The Subcommittee recognized that ZIP code actually described the mailing address of the patient's current residence. However, after much discussion, the Subcommittee felt that ZIP code was the only feasible means of categorizing residence for a basic data set. As a matter of utility, the current plans of the U.S. Bureau of the Census to provide denominator data on a ZIP code basis overcomes much of the former objection to the use of this geographic designation. As a matter of feasibility, the ready availability of this designation as opposed to census tract, etc., makes it an easily recorded item with a high degree of accuracy. As a matter of duplication, it is readily apparent that claims forms would contain the specific address and hence permit *ad hoc* studies of residence if desired. And as a matter of confidentiality, the possibility of ready identification of individuals with their specific address was considered undesirable.

As a matter of local option, the recording of ZIP code as a categorization of location does not preclude a breakdown into smaller areas for specific purposes or on an *ad hoc* basis. The Subcommittee felt that if at least ZIP code were collected on all hospitalized patients, a wealth of data would be provided which is currently not available.

6. *Hospital Identification.* A unique number within a data collection system.

*Comment:* While much discussion was held concerning the possibility of a single numbering system for all hospitals in the Nation, the Subcommittee felt that the ability to identify a specific hospital and segregate its data from those of the others within a data system was all that could reasonably be recommended. Some data systems currently utilize the hospital numbers assigned to indicate size and ownership of the hospitals, geographic location within a planning area, or the like. Most needs to classify hospitals are on a local or regional basis, hence the options as to the type of number assigned could most feasibly be left to the data collection system.

7.-8. *Admission and Discharge Dates.*

- a. Admission Date includes month, day, year, and hour (00-23) of admission.
- b. Discharge Date includes month, day, and year of discharge.

*Comment:* The desirability of collecting specific time of admission in order to have data on the admission patterns as they may affect utilization of resources motivated the inclusion of this information along with the admission date. Hour of admission utilizing 00-23 and disregarding minutes, is recommended. This is considered to result in greater accuracy in recording and provides easier manipulation of the data than the use of AM and PM. It was considered preferable to deal with the individual hours than to attempt groupings which require coding and may not be applicable universally.

9.-10. *Physician Identification.* Each physician must have a unique number within the hospital. The attending physician and operating physician are to be identified.

- a. Attending Physician. This is the physician who was primarily responsible

for the care of the patient from the beginning of this hospital episode.

- b. Operating Physician. This is the physician who performed the principal procedure.

*Comment:* A number of comments are in order. These relate primarily to the limitation of the data set to the two physicians identified, the definition of the physicians to be designated, and the nature of the unique number to be assigned.

The Subcommittee, in dealing with usual practice among hospitals and existing abstracting systems, elected to restrict the basic data set to the identification of the two physicians of greatest importance in the care of the patient during the hospital episode.

It was the feeling of the Subcommittee that the attending physician should be identified with the expectation that the physician so designated would have a continuing key role throughout the total hospital stay. Even when physicians are practicing in groups, the Subcommittee strongly recommends that separate numbers be assigned and utilized for each individual physician.

The Subcommittee was also concerned about the identification of the physician performing the procedure(s) if different from the attending physician, and much discussion was held concerning the limitation of the basic data set to this one additional physician. Sentiment in favor of identifying all physicians having a significant role in the care of the patient was expressed. It was noted that as a matter of practice some existing abstracting systems do reflect the physician performing the principal procedure, the assisting physician for each set of procedures performed, each consultant rendering a formal consultation, and the referring physician in those instances where this

physician may not have staff privileges. It was concluded by the Subcommittee that these are desirable options but need not constitute basic data.

In these abstracting services, the detailed data are used primarily as a basis for a report to the individual physician concerning his activity for the period of time reflected.

However, the primary purposes for collecting the data as a basic data item are to examine patterns of use of specific hospitals or specific services within a hospital by specific physicians, and to have an individual identified to whom inquiries might be addressed for more detailed data as required. It was felt that for most purposes the two physicians identified serve these needs and more detail could be collected on an *ad hoc* basis if desired.

The need for a unique number to identify specific physicians is obvious, and the question arises as to whether such a number might not be community wide. Abstracting systems which engage in studies for their participating hospitals relating to patterns of care have utilized portions of the number assigned to the individual physician to designate specialty, status on the hospital staff, or other such information. This is to permit review of patterns of care related to these parameters without the necessity of identifying any individual physician except by his own peers within his own setting. In general, attempts to do studies of individual physician differences have been relatively unsuccessful because of the small number of cases of a particular type any one physician may experience during any meaningful period of time; hence the utility of pattern review as a preferable device.

Similarly, practice patterns, i.e., the use of particular hospitals by indivi-

dual physicians holding multiple staff appointments is information relatively easy to obtain if the individual hospitals of an area have adequate data of activity within their facilities.

The issue then resolved into the relative utility of recommending that all hospitals of a given area replace their existing numbers for each physician with a community-wide number and lose more in utility for one purpose than might be gained for another.

The Subcommittee thus felt that at this time it was preferable to concentrate on obtaining limited data in an accurate fashion, i.e., precisely defined, and leave to future development the matter of standardization of the numbers used for this purpose.

11. *Diagnoses.* All diagnoses that affect the current stay.

a. Principal Diagnosis is to be designated and is defined as:

The condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

b. Other Diagnoses to be listed are:

All conditions that coexist at the time of admission, or develop subsequently, which affect the treatment received and/or the length of stay. Diagnoses that relate to an earlier episode which have no bearing on this hospital stay are to be excluded.

*Comment:* Of all the items in the data set, the clear identification of diagnoses was considered of the greatest importance. The Subcommittee reviewed current practices within hospitals, the various attempts to define clearly what is meant by principal diagnosis, and which other diagnoses should be recorded. What has been stated above represents the Subcommittee's attempt to clarify in under-

standable terms the information considered essential.

Much consideration was given to the recent development of problem oriented records as opposed to the diagnosis orientation on which most morbidity and mortality data are currently based. It was felt that as problem-orientation becomes more widespread and a standardized classification system is developed to reflect this approach, it can be utilized as a supplement to the diagnostic approach now in widespread use.

The Subcommittee expressed much concern over the multiplicity of coding systems for diagnosis that are extant, and felt that while standardization is an essential requirement for achieving comparability of data it was beyond the scope of the Subcommittee's charge to encompass the problem caused by varieties of coding systems. At the very least, however, any coding system utilized to reflect diagnosis should permit conversion of the data into ICDA to enable analysis on a comparable basis.

12. *Procedures and Dates.*

a. All procedures performed in operating rooms are to be reported with the dates. In addition to these procedures, all other significant procedures are to be recorded with the dates. A significant procedure is one which carries an operative or anesthetic risk or requires highly trained personnel or special facilities or equipment. Some examples of such procedures are cardiocatheterization, angiography, endoscopy, and super-voltage radiation therapy.

b. When more than one procedure is recorded the principal procedure is to be designated. In determining which of several procedures is the principal, the following criteria apply:

- (1) The principal procedure is one which was performed for definitive treatment rather than one performed for diagnostic or exploratory purposes, or was necessary to take care of a complication.
- (2) The principal procedure is that procedure most related to the principal diagnosis.

*Comment:* As is evidenced by the detail contained above, the Subcommittee felt that precision in the definition of this data item is an absolute necessity. The Subcommittee felt that *all* procedures meeting the above definition should be an essential part of any data set designed to reflect type and volume of care received.

Several existing abstracting systems are capable of providing the desired detail currently, and the Subcommittee feels that modifications should be made in order that all have this capability.

As with diagnoses, it was felt that the detail contained in the ICDA procedure codes is the standard that should be used in describing the specific procedures performed.

### 13. *Disposition of Patient.*

- a. Discharged to home (routine discharge).
- b. Left against medical advice.
- c. Discharged or transferred to another institution.
- d. Discharged or referred to an organized home care service.
- e. Died.

*Comment:* It has been traditional in hospitals to distinguish the patient who signed out against advice and those patients who had died during the hospital stay from the routine discharge. As hospitals developed home care programs and a patient left the hospital for continued care in this type of resource, it too was distinguished from

the routine discharge. In communities where special services have been consolidated in a few hospitals, (e.g., neurosurgery centers, burn centers, etc.) patients sent to this type of institution were distinguished as well, and in hospitals having affiliated or related extended care facilities, the fact of transfer became a routinely recorded and hence an abstractable item.

Sentiment in favor of detailed data on the specific institution to which the patient was transferred was expressed during the Subcommittee deliberations, but it was felt that on an on-going basis, data to permit an assessment of the quantity of patients transferred would suffice. In those hospitals showing unusual experience, an *ad hoc* study could be performed in order to obtain the desired detail.

Similarly, data on those deaths which were the concern of the office of the Medical Examiner or Coroner, and the proportion of deceased patients on whom a post mortem examination was performed, while often collected routinely, did not seem to warrant inclusion in a basic data set.

Hence the Subcommittee arrived at the items set forth, feeling that further detail might be a local option or reserved for *ad hoc* studies of a short-term nature.

### 14. *Expected Principal Source of Payment.* (Select one).

- a. Self-pay
- b. Workmen's compensation
- c. Medicare
- d. Other Government payments (including CHAMPUS, Medicaid)
- e. Blue Cross
- f. Insurance companies
- g. No charge (free, charity, special research, or teaching)
- h. Other

*Comment:* For purposes other than the processing of actual claims, and to simplify analysis of hospital use, the major categories of payment source were considered adequate detail for this information. It is recognized that abstract data are derived from the patients' medical record, and that more detail than set forth above would require input from the business office of the hospital before an abstract could be completed. Thus, the Subcommittee limited its recommendation of the basic data set to that information likely to be entered at the time of admission, by way of a manifold admission sheet, and hence a routine part of the medical record.

It was also recognized that in specific localities, the "other" category may assume special significance and a further breakout of this category utilized to indicate organized prepaid plans and the like. It did not appear necessary, however, to include such specification in the basic data set.

#### **Model Form**

It was not the purpose of the Subcommittee to recommend a specific form on which to collect the data included in a basic data set. Existing abstract systems, reflecting local interests, already collect substantially all the data included within the basic data set, and include some optional data as well.

### **RECOMMENDED PROCEDURES**

The Airlie House Conference report recommended that hospital discharge abstract systems support the development of a systems approach to providing information to multiple users by means of single instruments (e.g., summary or face sheets, claims forms, and discharge abstracts) therefore reducing paperwork.

In approaching this problem, the objectives have been to identify and define a minimum set of demographic, diagnostic, and medical services

data on individual discharged hospital patients which will serve basic institutional, community, and research needs for data and together with the necessary financial data satisfy the requirements for payment.

Virtually all hospitals currently operate a separate business office and a medical record department. As a consequence, information contained in the medical record is not readily available to the business office and hence not routinely a part of the claim submitted to the third-party payers.

The Subcommittee felt that when the medical record department of a hospital is preparing an abstract utilizing the basic data set a copy of this abstract should be transmitted to the business office for combination with the patient's bill in order to support a claim for reimbursement by third-party payers. The Subcommittee strongly recommends that hospitals develop procedures to accomplish this combination.

### **POTENTIAL FOR AREA, STATE, AND NATIONAL HOSPITAL PATIENT DATA SYSTEMS**

The minimum basic data set for a uniform hospital discharge abstract has been given field trials in several local areas to determine the acceptability and the feasibility of recording the data in varied hospital settings, and the quality and usefulness of the results for the several purposes described earlier in this report. It is to be expected that a suitable discharge abstract, coupled with a bill will be acceptable to the major insurance carriers and will be widely adopted for use in making payments for hospital care.

In areas where the uniform hospital discharge data set is abstracted by all or most hospitals a valuable set of records will be created. Abstracts for individual patients can be used in responding to requests by investigators in a variety of research areas. Hospitals with data processing facilities should find the abstract, alone or supplemented by other data, useful as the basic record for a patient information system. The broader array of purposes—community planning, hospital administration, patient management, and research would be bet-

ter served when all hospitals in the area participate in a central abstract agency service.

These agencies exist at the present time in only a few areas. Descriptions in the report of the Conference on Hospital Discharge Abstract Systems indicate the variety of auspices under which they are established and the services they provide. It is recommended that community health agencies in local areas—health councils, comprehensive health planning agencies, hospital councils—along with professional organizations explore the several approaches to establishment of central abstract agencies and select one best suited to the local situation.

The Subcommittee strongly recommends that central abstract agencies adopt the minimum basic data set and the definitions and classifications of individual data items. Aside from the proven soundness of the data items, use of the minimum basic data set unchanged as the core, if not the totality, of a patient information system will provide data which can be compared for different areas and will supply the building blocks for a cooperative data system covering regions, States, and even the Nation.

## EXPANSION OF DATA SET TO MEET SPECIAL NEEDS

As indicated in the comments on the individual data items recommended for the minimum basic data set, in many instances supplementary information may be highly desirable and accommodation of much of the additional information being secured by existing abstracting systems should be possible.

It was not the purpose of the Subcommittee to recommend elimination of variation among existing abstracting systems since much of the variation evolved from experiences gained in performing a meaningful service. By taking into account the variations known to exist, however, the basis for past decisions were examined and where possible the "common denominators" identified.

It is hoped that there has been provided a means by which data from a variety of sources may be exchanged or pooled and permit analysis with the confidence that similar categories and definitions have been utilized regardless of source.

Additions to the basic data set are to be expected. In some instances these have already been pointed out, as in the case of the physicians to be identified. The desirability of data on all physicians having a significant role in the care of a patient is not at all precluded by the recommendation that the basic data set include the attending physician and the physician performing the principal procedure.

A brief review of items considered desirable as local options follows:

1. *Source of Patient.* For planning purposes particularly, this might be a useful item. At least one existing abstracting system provides as an option to its participating hospitals the following categories for this item:
  - a. Routine admission
  - b. Admission from ambulatory service or outpatient department
  - c. Admission from emergency service
  - d. Transfer from affiliated institution
  - e. Transfer from another hospital
  - f. Admitted for special service (not transfer)
  - g. Readmission of patient previously receiving care for current problem
  - h. Newborn within hospital.
2. *Consultations.* The number of consultations, the physician rendering this service, the time interval between admission and consultation are all items which may well have usefulness as local options.
3. *Volume of Laboratory or X-Ray Studies.* The detail with which such data may be collected is virtually endless. In general, it was the judgment of the Subcommittee that other than those studies which were classifiable as "procedures" as defined above need not be considered as part of a basic set. Both through departmental reports within hospitals or via the billing procedures, data sufficient for most purposes may be readily obtained.

4. *Tissue Studies.* Characterization of the tissue removed at a surgical procedure may be of great usefulness for audit of quality of care. A variety of classification schemes are available. An example of one such is as follows:

- a. None removed (e.g., repair)
- b. Tissue removed for diagnostic purposes
- c. Normal tissue removed incidental to primary purpose of procedure
- d. Pathologic tissue removed confirmatory of preoperative diagnosis
- e. Anticipated pathology not encountered, alternative pathologic tissue removed
- f. Anticipated pathology not encountered, normal tissue removed prophylactically
- g. Pathologic tissue not removable, palliative procedure performed.

5. *Anesthesia.* Type and duration of anesthesia are items often collected but not considered data essential for a basic set.

6. *Variation from Audit Criteria.* The multiplicity of possibilities of data useful in auditing the services received by the patient within the hospital and the variations in technique for conducting medical audit by use of an abstracting service made it impractical for a single recommendation to be developed by the Subcommittee. Encouragement of local options in this area to supplement the basic data set appeared the most satisfactory manner in which to resolve the issues involved. In the interest of practicality in obtaining data, and economy in abstracting, it was felt that techniques involving minimal data collection have distinct advantages.

7. *Blood Usage.* In many abstract systems the amount of blood transfused is commonly recorded. These data are primarily used to identify the one unit transfusion and to demonstrate variation in blood usage from hospital to hospital within a community. While desirable as an option,

this information was not considered to be an item for inclusion in the basic data set.

8. *Nature of Admission.* (i.e., whether the admission was an emergency or a previously scheduled admission.) While also an item commonly collected, it did not appear necessary for inclusion in basic data set.

9. *Service to Which Patient Was Admitted.* It is the practice in the larger hospitals to classify in much detail the site within the facility where care is rendered or the department assuming primary responsibility for the care of the patient. This is usually done for internal administrative purposes.

Some abstracting systems record the service to which the patient was admitted and have the further capability of reflecting transfers within the institution and allocation of time spent during a particular admission among the respective units. These are considered desirable options but not at this time to be considered essential items for a basic data set.

10. *Accommodation Within Hospital.* Prior to widespread third-party payment, whether a patient occupied "ward," or "semiprivate" or "private" accommodations was considered an important item and many abstracting systems continue to collect this data. Variations in length of stay by type of accommodation have been noted.

More recent practices within hospitals, resulting in placing patients in accommodations dictated by seriousness of illness rather than on a financial basis make this item of little current interest.

11. *Religion.* During hospital care, especially with serious illness, when the clergy may play a significant role in patient management, it is necessary to know the patients' religion. In sectarian-sponsored institutions the relative case load derived from the major religious groups is of frequent interest. As a consequence, some

abstracting services offer this data item as an option. It was the judgment of the Subcommittee that it should remain so.

12. *Living Arrangements and Marital Status.* The Airlie House Conference suggested these items receive consideration for inclusion in the basic data set as affecting ease of discharge of specific patients. Of the two items of information living arrangements is the more pertinent to this purpose but it is not recorded by most hospitals in a systematic, retrievable manner.

Marital status is less suitable for the stated purpose because it provides information only with respect to legal status of the patient which differs from living arrangement in many instances for many different reasons. It was felt that an *ad hoc* study on selected long-stay cases would serve the purposes for which these items might be desired.

13. *Occupation.* While occupation is often a matter of interest, the precision required for utility of data appeared to be impractical to expect from the admitting office of the typical hospital.

Data are collected accurately on a routine basis if required for the management of the patient within the hospital or for billing purposes. Occupation *per se* does not meet this requirement. Place of employment of the head of household is likely to be collected, especially if third-party payment is related to employment, but the utility of these data was considered too limited to warrant its inclusion in a basic data set.

14. *Address.* The patient's address was considered as a possible data item especially for those urban areas where computerized conversion of address to census tract or other small geographic units is available. As indicated in the comment on ZIP code (basic data item 5.), there were a series of considerations which resulted in the recommendation of the Sub-

committee that address not be a basic data item. If, in specific localities facilities for address coding are available and the matters of confidentiality and duplication can be adequately dealt with, collection of this data item can be accomplished as a local option.

15. *Patient's Name.* At no time was consideration given to inclusion of the name of the patient in a basic data set. At least one existing abstract system, however, does provide for the collection of the data for a single purpose only, i.e., in order to prepare a report of activity for the physicians in the participating hospitals. This was desired in a specific community and in order to preserve the confidentiality of the data, the abstracting system is considered to be an extension of the hospital records department and furnishes no data to any user except with authorization from the participating hospital. Other than for the specific activity report referred to, the patient's name is omitted from the data set subjected to analysis and not utilized in any manner.

16. *Charges.* The utility of this item in a basic data set was the subject of considerable discussion by the Subcommittee, with the ultimate decision reached that it not be included as a basic data set item.

This was the only data item recommended by the Airlie House Conference for consideration for the basic data set which is not routinely available in the medical records department of the typical hospital and which would, if included, duplicate the information available from the projected concomitant billing form.

Since it was felt that a primary purpose of the basic data set was to provide a means by which to furnish accurate information to support a claim for payment, which information would also have a number of other uses, the inclusion of the total charge for the hospital stay on the

discharge abstract appeared to be an unnecessary duplication.

## FUTURE REVISION OF THE BASIC DATA SET

In both the comments accompanying the items in the basic data set and the comment on local options all the items given any consideration have been set forth.

The only further comment necessary is that the Subcommittee felt it had to deal with the here and now in its judgments and that a process of periodic reconsideration and revision needs to be established. The Subcommittee has been informed on the results of the field tests of the basic data set and would expect to receive comments from many quarters on the present report. It thus recommends that it play a continuing role in reevaluating its current judgments in the light of both field experience and input from others knowledgeable in the field.

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<sup>5</sup>National Center for Health Statistics. Report of Twentieth Anniversary Conference of the U.S. National Committee on Vital and Health Statistics.

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