Uniform Hospital Discharge Data

Minimum Data Set

Report of the
National Committee on
Vital and Health Statistics

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • Public Health Service • Office of Health Research, Statistics, and Technology • National Center for Health Statistics

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Statistics
3700 East-West Highway
Hyattsville, Maryland 20782

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INTRODUCTORY NOTE

A report of the National Committee on Vital and Health Statistics related to hospital patient care data was released in 1972. This report, entitled *Uniform Hospital Abstract-Minimum Basic Data Set*, represented the original formulation by the Committee of the Uniform Hospital Discharge Data Set (UHDDS) and included both the recommended data set items and their definitions. The recommended UHDDS was used as a base for development of policy and program related to hospital discharge statistics by both the governmental and nongovernmental sectors.

In 1975 the Committee established a consultant panel to review the original recommendations in terms of current and rapidly changing needs for discharge data. The results of that review, including recommendations, were formally endorsed by the National Committee in 1979 and forwarded for consideration to the Secretary, HEW.

The Department supports the general concept of minimum uniform health data and the application of that concept specifically to hospital discharge data. It is recognized that the Committee's recommendations were appropriately developed in consideration of both the public and private sectors. Certain recommendations therefore may not be applicable within the sphere of Federal programs, and certain recommendations may require adaptation to assure applicability within the Federal sphere.

Uniform Hospital Discharge Data contains material abstracted from the Committee's more extensive 1979 formal report. Recipients of *Uniform Hospital Discharge Data* should realize that such dissemination does not represent, at the present time, Departmental policy in reference to the UHDDS. Such Departmental policy and related program actions will occur through different channels and at a later period.

Ruth S. Hanft
Deputy Assistant Secretary for Health
Research, Statistics, and Technology

Lester Breslow, M.D.
Chairman
National Committee on Vital and
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FOREWORD

It is a decade since the need for a uniform minimum data set for hospitalized patients in the United States was identified. Although Florence Nightingale had advocated this idea for hospitals in Britain over a century earlier and a minimum data set had been in use for the vital registration system in the United States for a generation, the application of this simple concept to discharge abstracts for all hospitalized patients throughout the country only took concrete form at the Conference on Hospital Discharge Abstract Data in 1969. Among the results of that Conference was the development of a recommended Uniform Hospital Discharge Data Set (UHDDS) by the United States National Committee on Vital and Health Statistics in 1972.

Since the development of the original UHDDS, the concept of uniform minimum data has evolved, as well as a growth in knowledge of the range and complexity of the problems and issues surrounding the implementation of the UHDDS specifically and the uniform minimum health data set concept in general.

Suffice to say that unless fundamental facts about such matters as the types of patients hospitalized throughout the country, the reasons for their use of hospital resources, and their place of residence are made available to those with a need and right to know, it is impossible to relate the accomplishments of the hospital component of our health care delivery system to the money expended.

More importantly, however, and far less clearly appreciated, is the need to relate hospital care data, ambulatory care data and long-term care data to each other and to manpower and facilities data. Until the three former modalities of care are analyzed in relationship to the resources deployed, it will be extremely difficult to understand the dynamics of our health care system and quite impossible to control costs in relationship to such issues as relative benefits, risks, and access.

Kerr L. White, M.D.
Former Chairman
U.S. National Committee on
Vital and Health Statistics

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UNIFORM HOSPITAL DISCHARGE DATA — MINIMUM DATA SET

Section I. Background

Public Law 93-353, The Health Services Research, Health Statistics and Medical Libraries Act of 1974, formally recognized the U.S. National Committee on Vital and Health Statistics (USNCVHS) as an Advisory Committee to the Secretary of Health, Education, and Welfare (HEW).

Regarding minimum uniform health data, three of the several functions specified by law for the USNCVHS are germane: "The Committee shall assist and advise the Secretary (1) "to determine, approve, and revise the terms, definitions, classifications, and guidelines for assessing health status and health services, their distribution and costs for use" within DHEW, within programs administered by the Department, and possibly within other Federal programs concerned with health and health services; (2) "with respect to the design of and approval of health statistical and health information systems concerned with the collection and processing, and tabulation of health statistics within DHEW"; and (3) "to review and comment on findings and proposals developed by other organizations and agencies and to make recommendations for their adoption or implementation by local, State, national or international agencies."

One initial action taken by the newly formed U.S. National Committee in the fall of 1975 was to establish a series of Technical Consultant Panels (TCP) for the development and continuing review of "minimum uniform health data sets." The Committee saw the activity of data set TCP's as high priority because the collection and resulting availability of minimum uniform data on health and the health services system is mandatory for effective use in planning, monitoring, evaluation, and adjustment of the health services system. The Committee recognized that (1) currently, and probably in the future, health data collection occurs at multiple geopolitical levels (national, State, and local) for a variety of appropriate uses; (2) it is probably not cost effective to totally redesign the present multiple collection processes into one system; (3) such redesign is probably not required *if unnecessary* duplicative collection can be eliminated *and* all remaining collectors can obtain a common minimal level of uniformly defined data to permit necessary sharing and comparison of resultant health and health services information.

Although in 1975 the USNCVHS was new in terms of legislative standards, it had been functioning since 1948 as an advisory committee. As a result, the concepts of minimum basic health data sets and a specific data set for hospital discharges were not new subjects for the Committee. Since the early 1970's, the Committee was centrum in the development of these concepts and of the original Uniform Hospital Discharge Data Set (UHDDS). The UHDDS TCP established in 1975 was to focus on review and evaluation of existing material in terms of today's environment of hospital discharge data collection and use.

The specific charges by the U.S. National Committee (see appendix I) encompassed the following four general subject areas:

The UHDDS as a minimum basic data set.

UHDDS abstracting, collecting, and processing.

UHDDS revision and promulgation.

UHDDS confidentiality.

The Panel received two additional tasks during its period of activity:

1. A request in January 1976 from the Assistant Secretary for Health to formally critique DHEW's proposed UHDDS collection plan: The Uniform Hospital Discharge Abstract (UHDA). The formal critique was completed by the TCP, reviewed and approved by the USNCVHS, and forwarded to the Assistant Secretary and the DHEW Health Data Policy

Committee in February 1976. In the introduction to the extensive formal critique, the Panel recognized DHEW's program statistical needs underlying the development of the UHDA plan. The Panel acknowledged that the plan could minimally meet the Federal data needs of the Bureau of Quality Assurance and those of the Office of Research and Statistics, Social Security Administration. However, the Panel expressed the opinion that (1) the proposed plan was not the most cost-effective method of serving those two agencies, and (2) the plan would not accomplish its overall objective—a uniform approach to the acquisition of the UHDDS acceptable to a majority of users. The Panel evaluated the proposed plan to determine its strengths and weaknesses, proposed an alternative plan, and strongly urged a period of demonstration and evaluation before instituting any plan.

2. In January 1977, the Assistant Secretary for Health formed an ad hoc advisory committee on the UHDDS. The committee was to "jointly review the definitions and content of the UHDDS and develop recommendations for action to the Assistant Secretary." The committee was specifically to analyze and resolve content differences between the UHDDS enacted in 1974 as DHEW's policy for Medicare and Medicaid and the version recommended by the USNCVHS. The chairperson of the UHDDS TCP chaired the ad hoc committee composed of individuals selected from the TCP membership, the Bureau of Quality Assurance, the National Center for Health Statistics, and the Office of Research and Statistics of the Social Security Administration. The committee did produce a unified version of the UHDDS. This version is presented in this report as the UHDDS recommended by the U.S. National Committee. In March 1977, the ad hoc committee's report was forwarded to the Office of the Assistant Secretary.

Because of urgent matters related to the UHDDS and its collection, formal recommendations were made by the Panel to the U.S. National Committee on completion of action on specific charges and requests. The Committee formally acted on the recommendations, and forwarded them to DHEW for review and appropriate action.

Section II. Uniform Minimum Data

Concept and Needs

The concept of minimum uniform data is not new; there is evidence that Florence Nightingale designed a comparative reporting system for London hospitals based on minimum uniform data, and the vital statistics system in the United States is based on minimum uniformity. Until the late 1960's, the concept as applied to health data in the United States (apart from vital statistics) received little interest or impetus. However, under various pressures—increasing health care costs, needs for systematic planning of resource use and availability, regularized programs to measure and improve quality of care—informational needs of many related health care groups increased. The need of diverse groups also paralleled a rapid growth in availability of "data" from many sources. Although various pieces of data were available, they generally lacked uniformity of definition and were not universally available. Consequently, although groups of data from various sources can be linked mechanically, definitional differences precluded meaningful comparisons, and major data gaps existed in certain areas of the country.

As a result of the efforts beginning in 1969, a concept of uniform minimum health data was formulated by identifying common data items among multiple users, uniformly defining those items, and making them universally available through various collection mechanisms that either currently exist or are needed.

If a common minimum data set could be identified, defined, uniformly recorded in a primary source document by the provider, abstracted from that central document, and made available to multiple users through a variety of collection mechanisms, then problems of data uniformity, availability, reliability, validity, and costs of collection and use could be significantly reduced.

Development of the UHDDS

In 1969 the National Center for Health Services Research and Development,[g] the National Center for Health Statistics (NCHS), and the Johns Hopkins University sponsored a Conference on Hospital Discharge Abstract Systems.[h] The Conference was designed "to explore ways for improving and coordinating health information systems in the United States." Specifically the conferees focused on hospital discharge data[i] as a logical place to begin exploration of health information systems.

In 1969 issues surrounding the cost and quality of hospital inpatient services were similar to those of today; however, the number of organizations has increased (i.e., HSA's and PSRO's), and the level of concern has heightened. The 1969 conferees, who shared common concerns, represented a spectrum of groups: Government, nongovernment, national, and local organizations and agencies.

Hospital discharge information is necessary to understand, monitor, and resolve problems related to hospital-based delivery of health care. Although all conferees expressed concern for lack of information, the nature of the required information and its use varied according to the function of the organization and agency.

At the time of the conference, several nongovernmental operational hospital discharge abstract systems and several governmental programs, especially at the Federal level, collected and used hospital discharge data for various informational purposes. The conferees explored the possibility of developing uniform information among the data collectors. The intent of the conferees was neither to develop one massive single data collection system for all users nor to develop one standard form for multiple collectors. Even in 1969 (when the number of multiple data-information users at various geopolitical levels was slight and the number of existing collection resources was considerable), a uniform collection system was not considered practical or necessary. Instead, a minimum level of data uniformity among the various collecting and processing systems for comparability

[g] Eventually became the National Center for Health Services Research.

[h] For complete proceedings of the Conference see: *Hospital Discharge Data*, Jane H. Murnaghan (ed.), *Medical Care*, Vol. 8, No. 4 (Supplement), 1970.

[i] Hospital discharge data were defined as "summary information about the individual patient and the episode of illness in the short-term general hospital."

and exchangeability of data and/or information was needed.

At the conclusion of the Conference three major recommendations were formulated:

To develop a minimum basic data set including selected data elements that all short-term general hospitals should collect on patient discharges.

To support research and development concerning conceptual or technical problems of health information systems including:

- Confidentiality of information.
- Collection of information on the use of health services other than short-term inpatients.
- Development of patient social indicators and functional status.
- A systems approach to provide information to multiple users.
- Record linkage among health related events.
- Coordination among existing discharge abstract systems.

To promulgate the data set and its underlying concept.

Action eventually did occur on the recommendation to develop a minimum basic hospital discharge data set. However, other recommendations of the Conference were not acted on, including data confidentiality. The absence of action on the confidentiality and other problems was unfortunate because these issues are still not resolved and they have become more complex and less easy to settle.

The Secretary of HEW received the Conference recommendations, appointed a steering committee to "oversee" implementation of the recommendations of the Conference on Hospital Discharge Abstract Systems," and designated the National Center for Health Services Research and Development as the DHEW coordinating agency in matters related to implementation of the recommendations. The National Center awarded a grant to the Health Services Foundation "to field test and demonstrate collection and use of the data set by agencies and organizations external to the hospital" and a contract to the Hospital Research and Education Trust "to field test and demonstrate collection and use of the data set by the hospital for both medical and institutional management." Finally, the USNCVHS formed a TCP to develop "a minimum basic data set to be collected on all short-term general hospital discharges."

By 1973, all activities related to the initial development and testing of the Uniform Hospital Discharge Data Set (UHDDS) were completed. The USNCVHS had reviewed, approved, and forwarded a final report to DHEW for action on the data set concept and the discharge data set item content and definitions.[j] The developmental and demonstration efforts of both the Health Services Foundation and the Hospital Research and Educational Trust (HRET) were reviewed, and approved by the appropriate steering and advisory groups, published, and disseminated.[k,l,m]

In 1974, DHEW adopted the UHDDS as departmental policy regarding Medicare and Medicaid programs and their patient populations. In the process of adoption, the Department adapted certain item definitions of the original set, most notably those related to identifiers such as patient, physician, and institution.

During 1974 and 1975, the relatively new DHEW PSRO's and HSA's began to plan and put into operation their informational needs on discharged hospital inpatients. In the case of the PSRO program, the immediate needs were restricted to Title XVIII, XIX, and V program recipients only and included information on the patient, before discharge. In the case of the HSA program, information on all hospital utilization was implied by the legislation. These new program needs were added to the already existing Federal programs. The PSRO program defined their Federal data stipulations as the Departmental version of the UHDDS, plus several supplemental data items for the PSRO exclusively. The resultant PSRO data set was termed the "Professional Standards Review Organizations Hospital Discharge Data Set (PHDDS)." The original UHDDS training program was modified by the HRET, under contract to the PSRO program,

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[j]National Center for Health Statistics: Uniform hospital abstract, minimum basic data set. *Vital and Health Statistics.* Series 4-No. 14. DHEW Pub. No. (HSM) 73-1451. Health Services and Mental Health Administration. Washington. U.S. Government Printing Office, Dec. 1972.

[k]National Center for Health Services Research and Development: The uniform hospital discharge data demonstration. DHEW Pub. No. (HRA) 74-3102. Health Resources Administration. Washington. National Technical Information Service, PB223739, July 1973.

[l]National Center for Health Services Research and Development: Common data set for hospital management. DHEW Pub. No. (HSM) 72-3026. Health Services and Mental Health Administration. Washington. National Technical Information Service, PB210760, 1972.

[m]Hospital Research and Educational Trust: Common data set for hospital management (Phase II). Chicago, 1973.

to reflect the data item, definitional changes, and additions. The new program was distributed to all PSRO programs for local use to fulfill Federal reporting requirements.

An experimental effort to develop a uniform hospital inpatient claims form predated the 1969 Discharge Conference. Due to the extensive period of time and changing information needs, the groups involved in the effort and the effort itself have varied. Despite this variation, the following goal has remained relatively constant: to design, test, and operationalize the use of one claims form containing uniform data items (and definitions) that all short-term general hospitals would collect on all discharged inpatients and will be accepted by all third-party payers.

The uniform claims form effort was at a peak during the original development of the UHDDS and the activities of both the claims form group(s) and the UHDDS were coordinated but not formally linked. As a result of this coordination it was understood that any claims form data related to the patient or the episode of hospitalization would be those items in the UHDDS and their definition. The resultant potential data uniformity between the claims form and the discharge summaries and their potential for linkage after completion were two of the factors that led the USNCVHS to exclude any episode charges data from the UHDDS.

In late 1975, when the USNCVHS formed the new TCP on the UHDDS, it was confronted with problems that had evolved over a 6-year period, such as:

Two different versions of the Uniform Hospital Discharge Data Set were in use.

The USNCVHS's original UHDDS and its underlying concepts were never systematically promulgated.

The technical and conceptual problems relating to minimum data sets were identified, but never studied.

The monitoring recommendations in the original USNCVHS report were never acted on.

A uniform claims form interrelated in content with the UHDDS still has not been implemented.

Various governmental and nongovernmental health programs requiring UHDDS data were uncoordinated in their collection policies.

New collection systems or methods appeared to be under consideration with little or no attention given to the existing resources and their capacity to meet needs.

Section III. UHDDS Developmental Criteria and Guidelines

The Technical Consultant Panel had been charged, partly, with reviewing the terms, definitions, and classifications of the UHDDS originally approved by the U.S. National Committee in 1972. In conducting this review, the Panel developed a set of criteria to be used in determining inclusion or exclusion of data items and their definition for a uniform hospital discharge set.

Criteria

The first two criteria are interrelated because they encompass the basic UHDDS concept: a minimum data set that is useful to multiple users. Acceptance of the data items and their definition is growing, however, it appears that the underlying concept is not generally understood because the minimum data set is often criticized for not satisfying the total data needs of a particular user group(s). The UHDDS was not designed initially to meet the total data needs of any one or all user groups. Its intent is to serve as a common core of data required among multiple groups. Therefore, each group must expand beyond this core to meet its own total data needs on discharged patients. The UHDDS is designed as a common denominator among groups based on data items that a majority of users collect individually from the hospital and analyze for separate programmatic information and intelligence needs.

Criterion 1.—A minimum set of demographic, diagnostic, and medical services data on individual inpatients discharged from short-term general hospitals.

In addition to the minimum concept, Criterion 1 limits the data set to items on short-term hospital inpatients who have been *discharged*. Consequently, these items have limitations for use *during* the patient's hospitalization, and are generally not relevant to long-term or ambulatory care settings. Separate data sets for patients in these two environments have been individually developed by the U.S. National Committee.

Criterion 2.—Data items useful to multiple users at various geopolitical levels for both governmental and nongovernmental organizations and agencies including hospital boards of trustees, and administration; hospital medical staffs; extra-hospital quality review organizations, e.g., PSRO's; planning groups and legislative bodies; and private and public third-party payers.

In determining exclusion or inclusion of a data item, the item must have a demonstrated potential or actual utility to several but not necessarily all of the listed groups.

Criterion 3.—Items which can be readily collected with reasonable accuracy and economy.

The UHDDS is a set of data items to be abstracted from the hospital medical record. While there is minimal content and data uniformity among hospital medical records, considerable variation exists in the organization and format of these medical records. The UHDDS items, therefore, were developed based on consideration of the medical record as the primary source document for the UHDDS; its strengths and weaknesses (considerations of reasonable accuracy), and the process necessary to abstract and code the source information (considerations of economy).

Criterion 4.—Data items for which continuous collection is necessary.

Because the content of an individual medical record contains all significant events during hospitalization, the detail of the record varies according to the nature of the medical condition. In keeping with the minimum data and multiple user concepts, only those items that are pertinent to every event of hospitalization are to be included for abstracting. Individual variation is important for the event and for certain multiple users; however, such content is not necessary nor cost-beneficial in terms of continuous availability.

Criterion 5.—Data item collection should not unnecessarily duplicate data available from other resources.

Because the primary source document for the UHDDS is the medical record, the hospital as custodian of the record often must repetitively abstract similar data from records to meet uncoordinated demands of multiple users. Ideally, data should only be abstracted once from a central record form and made available to multiple users. This abstracting could be cost-beneficial, improve accuracy of data, and reduce problems of confidentiality. However, given the cost of systems development invested among multiple users and their various programmatic needs, it is not considered reasonable to expect the ideal situation.

It is reasonable, however, to preclude further duplicative collection, to insure uniformity among items currently collected. During the development of the UHDDS duplication was accepted, but only to the degree that it could be justified in terms of special program needs and if it did not inflate an already expensive collection process.

Criterion 6.—Data items collected should preserve confidentiality of information, but enable public accountability.

The content of a medical record is confidential. However, data abstracted from the document are necessary for various programmatic functions pertaining both to individual and aggregated events. The intent of the UHDDS either by content or definition is not to preclude or restrict programmatic functions. The UHDDS as presently defined presents an appropriate balance between confidentiality and need to know. The UHDDS definition of patient and physician data items permits institutional control of confidentiality. An institution holding the medical record may link a name to the recommended identifier codes, but an external organization or agency may not independently perform such a linkage. Therefore, the institution is responsible for linking and disclosing a specific identity to the appropriate external program users such as third-party payers for claims processing. Conversely, the institution can release data on individual hospitalizations, but with no specific identity of physician or patient. Such release frequently does and should occur to programs, such as health planning, that require information and intelligence on aggregate patterns of hospital use.

A balance must be maintained between need and confidentiality. The UHDDS was designed with this balance in mind. The UHDDS, however, cannot totally assure balance alone. Cooperative arrangements between the institution and the various user groups are necessary to assure only appropriate disclosure. The problem is resolvable by considering conjointly what data are collected, how they are collected, and to whom and in what manner they are disseminated.

Criterion 7.—Cost-benefit factors to both data providers and users must be considered in adjusting the UHDDS and collection mechanism(s).

The recording, storing, abstracting, and processing of medical records data can be expensive for both the institution and the user(s). Therefore, the item content of the UHDDS must be developed and periodically adjusted by considering both data needs and the cost of meeting such needs. Need must be weighed against cost and only those items must be abstracted that can be cost justified in terms of utility. This justification must entail analysis of the needs of the institution, the user organization(s), and the collection system(s).

Guidelines

In addition to the preceding criteria for development of the UHDDS, the Technical Consultant Panel developed the following guidelines for the data items within the set:

1. All data items must be defined. One major purpose of the UHDDS is to promote uniformity of data among institutions and user organizations. A data item label, such as physician, is not sufficient to permit uniformity. The item must be defined to reduce and eliminate current variation in definition of data items carrying the same label.

2. If a data item can only be generally defined, such as principal diagnosis and significant procedure, then guidelines must be developed to maximize uniformity and consistency of recording.

3. Data items common to multiple data sets must be uniformly defined across data sets. The U.S. National Committee on Vital and Health Statistics oversees the development of multiple minimum data sets. Many of these sets, such as UHDDS, ambulatory care, and long-term care, although focusing on different aspects related to health and its delivery, contain similar data items. When common items appear they must be uniformly defined among the sets.

4. For data items that require specified subgroups, such as disposition of patient and race and ethnicity, the subgroup items must conform to the criteria established for the basic data items.

5. Data items, definitions, and subgroups should be developed according to generic usage. Elements that are in a current, but probably short-term vogue, should be avoided to preclude frequent and expensive reformulation of the data set.

Section IV. Recommendations and Commentary

The Uniform Hospital Discharge Data Set

Fourteen items are recommended as the data items for the UHDDS. Although subsequent pages of the report will specify certain definitional or subcategory changes from the former UHDDS, no change occurred in the number or type of items from the version originally recommended in 1972. These items are the following:

Number	*Item*
1	Personal Identification
2	Date of Birth
3	Sex
4	Race and Ethnicity
5	Residence
6	Hospital Identification
7-8	Admission and Discharge Date
9-10	Physician Identification: attending and operating
11	Diagnoses
12	Procedures and Dates
13	Disposition of Patient
14	Expected Principal Source of Payment

The following list contains an identification, definition, or subcategorization of each UHDDS item, and if appropriate, comments are given.

1. *Personal Identification*[n]

   The unique number assigned to each patient within a hospital that distinguishes the patient and his or her hospital record from all others in that institution.

   Comment: Each UHDDS abstract must identify an individual and his or her corresponding record so that an audit trail can be established to retrieve the primary source document record for detailed study and/or for validation of the abstracted data. In addition, the necessity to link UHDDS data to other documents such as a claims form is increasing. This linkage requires a unique number common among these documents.

   Presently, many patients may have several numbers, such as a Social Security Number, that are unique to them. However, all discharged patients do not all have the same unique number(s). The hospital-assigned medical record number is the only current number that identifies *all* discharged patients uniquely and meets the UHDDS criteria. Therefore, this number should be used for abstracting the personal identifier item.

   Current DHEW policy regarding the UHDDS person identification is:

   > "each admission is to be reported by the patient's unique social security number. For newborns and children not having a social security number but covered under Medicaid, the recipient I.D. number is to be used. If the hospital also assigns a medical record which differs from the social security number or the recipient I.D. number, it is also to be furnished."[o]

   The DHEW definition was formulated according to Medicare, Medicaid, and PSRO program needs. These program-specific needs are recognized. However, the *universal* use of the DHEW personal identification definition does not meet UHDDS criteria regarding: "all patients," "common to multiple users," "cost benefit," and "confidentiality." Furthermore, the Social Security Number is infrequently used as a hospital's medical record numbering system, and often is not recorded in the primary source document. This situation makes it difficult if not impossible to establish a UHDDS audit trail by using the Social Security Number.

[n] Indicates no definitional change from the UHDDS recommended by the USNCVHS in 1972.

[o] UHDDS Policy for Medicare and Medicaid. DHEW Memorandum, May 17, 1974.

The recommended definition of the USNCVHS does not preclude use of any program-specific personal identification numbers. The numbers can be used to supplement the UHDDS, but should not be used as an integral part of it. A transposition of the current DHEW policy would permit conformity to the UHDDS definition and criteria, and not preclude program supplementation. Specifically DHEW could require any federally related program that needs to abstract medical record data to universally collect the medical record number as the personal identifier, but it would permit, on a program-specific basis, the collection of unique identifiers required by that program for its own purposes. However, to insure uniformity of the UHDDS among all users and providers (both governmental and nongovernmental), this supplementation must be kept separate from implementation of the UHDDS.

2. *Date of Birth*[n]

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 the birth date is recorded. For such items as eligibility for age-related benefits, the data on which eligibility is established may be most important. Also, if an error occurs in recording the person identification number (preceding item 1), the birth date may be helpful in matching records.

The recommended month, day, and year only refers to the items collected, not the order in which the items are to be placed on an abstract record or a tape file. Item ordering is beyond the purview of the UHDDS and should be determined by the program(s) overseeing the collection of the UHDDS. However, for uniformity and exchangeability of data, the multiple program users who are collecting birth dates should all use a uniform method for placement or at least specify their placement method.

3. *Sex*[n]

Male or female.

Comment: Some instances occur in which the sex of the patient either has not been or cannot be determined. However, it should be possible to collect the data item accurately except in the most unusual circumstances.

4. *Race and Ethnicity*

American Indian or Alaskan Native

Asian or Pacific Islander

Black

Hispanic

White

Other

Comment: The former UHDDS categories of race were white, black, and other. Although it was realized that the original categories did not provide sufficient information depth for certain programs and/or in certain areas of the country, the categories were limited and could be expanded as necessary if the detail for such expansion could be nested back into the three minimum categories. This nesting requirement, which also affects other data items, permits exchange of data and comparison of information at the minimum uniform level.
In 1977 the Office of Management and Budget (OMB) established race and ethnicity standards for Federal statistical and administrative reporting.[p] Because of the nature of the Federal program mandate and the medical relevance of the OMB categories, the USNCVHS adopted the categories as those to be used in the current UHDDS. The Committee feels, however, that the original "expansion within categories" principal should be allowed as dictated by program and area needs if the supplements can be nested into the new categories.

The Committee has added to the OMB specific categories a general category of "other." The addition is recommended for UHDDS because the five groups do not cover all possible options (e.g., mixed races).

5. *Residence*[n]

ZIP code.

Comment: For a variety of program-specific uses related to patient origin on both an indi-

[p]Race and Ethnic Standards for Federal Statistical and Administrative Reporting. OMB Circular A-46 Attachment F, 1976.

vidual and a group basis, a residence identifier data item is important to the UHDDS. The current UHDDS Panel as well as their predecessor group considered several items for residence identification:

Dwelling number and street address.—Such data detail would permit aggregation of data into almost every desired level of geopolitical specificity. Furthermore, specific address information is routinely collected as part of the record, but other residence options are not (e.g., census tract). However, specific address information was not recommended for abstracting because it does not meet certain UHDDS criteria: it raises problems of confidentiality, and it is expensive to abstract and use.

Census tract.—In certain areas of the country, tract detail provides the ideal residence identifier. However, coding and abstracting of census tracts are expensive and prone to error. Furthermore, the availability of sufficient census tract detail is not universal throughout the country. Although census tracts overcome some of the problems of specific address information, tracts present inherent problems that preclude a positive universal recommendation.

Other geopolitical unit detail (i.e., city, county).—The Panel did consider various other options all of which were not recommended either because of a lack of relevant universality or because the option presented an insufficient level of detail.

ZIP code.—The ZIP code is almost always routinely recorded in the primary source document and, if not, can be obtained from an always recorded specific address. The code obviously requires no coding for abstracting and is reasonably economical to store and retrieve. Furthermore, it is universally used. Calculation of population use rates are extremely difficult because descriptions of the general population at risk are not generally available by ZIP code. However, after extensive review the advantages of the ZIP code as the recommended residence identifier outweighed the disadvantages and the problems of the other options.

Although it is recommended that the ZIP code be the UHDDS universal residence identifier, it is also recommended that programmatic supplementation be allowed to permit greater geographic detail when needed and if feasible. However, this supplementation would not be considered an integral part of the UHDDS unless the greater geographic specificity could be nested into ZIP code areas.

6. *Hospital Identification*[n]

A unique institutional number within a data collection system.

Comment: Current DHEW policy in reference to UHDDS hospital identification is: "the provider number assigned by the Medicare Program (and used by the Medicare and Medicaid in the hospital certification process)."

Although the Medicare provider number offered a potentially attractive universal number for hospitals, it does not totally conform to the criteria for multiple users and might raise problems of confidentiality. Further, there was a question of the mutual exclusiveness of the numbers among all hospitals. The question remains to be resolved. Despite the need for a universal identification system for hospitals and the possibility that the Medicare number might suffice, the recommendation was not to change the original UHDDS definition pending resolution of the universality question.

The intent of the hospital identification item is to permit identification of a specific hospital and segregate its data from those of others within the same data collection system. The current definition does not preclude use of the Medicare number for special program purposes. However, its use must be as a supplement to the UHDDS, not as an integral part of it.

7-8. *Admission and Discharge Date*

Month, day, and year of both admission and discharge. An inpatient *admission* begins with the formal acceptance by a hospital of a patient who is to receive physician, dentist, or allied services while receiving room, board,

and continuous nursing services. An inpatient *discharge* occurs with the termination of the room, board, and continuous nursing services, and the formal release of an inpatient by the hospital.

Comment: In addition to the defined dates, both the original UHDDS and the DHEW version required the admission hour in addition to the date. During the TCP review of this item, no use for the admission hour was identified to justify the expense of continuous collection. If an individual program is currently *using* the admission hour, then collection should continue. However, no new program should be required to collect the admission hour.

9-10. *Physician Identification*[n]

Each physician must have a unique identification number within the hospital. The attending physician and the operating physician (if applicable) are to be identified.

9. Attending physician

   The clinician who is primarily and largely responsible for the care of the patient from the beginning of the hospital episode.

10. Operating physician

    The clinician who performed the principal procedure (see item 12 for definition of a principal procedure).

Comment: Two general comments are in order concerning physician identification. The first concerns numeric identification and the second concerns the "type" of physician identified.

1. *Numeric identification.*—Current DHEW policy on the UHDDS presents the following definition for physician identification: "Each physician is to be identified by his or her unique Social Security Number." The recommended UHDDS specifies only a unique number within the hospital. The Social Security Number per se is *not* recommended because it does not presently meet the multiple user criteria and raises possible problems of confidentiality. Despite its disadvantages for current UHDDS purposes, the Social Security Number would permit analysis of (1) physician patterns of care on an areawide basis, and (2) physicians having multiple hospital admitting privileges. It is noted that for areawide uses among hospitals, uniform numbers among physicians, such as medical license numbers, exist. Also, a special numbering system could be developed within an area that would permit multihospital analysis. Each of these types of "area-universal" numbers does have analytic advantages. The recommended definition does *not* preclude their use as long as confidentiality is protected.

   The definition requires a unique number for each physician within the hospital and does not preclude an extrahospital collection system in cooperation with physicians and institutions from establishing a unique areawide number for each physician. In such a system the physician not only would have a unique number within one hospital, but also would have the same number assigned in other area institutions to which their practice is extended. This mechanism would not violate the intent of the definition.

   It is strongly recommended that in the instance of a physician group, that each individual within the group be assigned a unique number as opposed to a unique number for the total group.

2. *Physician identified.*—At the minimum level, the identification of only two physicians is recommended. This minimum requirement does not preclude identification of additional physicians if necessary for special program purposes as long as such supplemental information is not mandated as a part of the basic UHDDS requirement and the identity of "other" physicians is clearly separated from the two required identities. Although several programs can and do use information on all physicians involved in a particular hospital episode of care, for universal use purposes it was felt that the identification of the attending and operating physicians is the most commonly required and used.

11. *Diagnoses*[n]

All diagnoses that affect the current hospital stay.

a. Principal diagnosis is designated and 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 designated and defined as associated with the current hospital stay are: all conditions that coexist at the time of admission, that develop subsequently, or that affect the treatment received and/or the length of stay. Diagnoses that relate to an earlier episode which have no bearing on the current hospital stay, are to be excluded.

Comment: It is realized that diagnoses other than those required at the minimum level (principal and associated) appear in the primary source document and in fact may be used for special program purposes. The definition does not preclude the abstracting of those diagnoses as long as they are appropriately identified and are not included as part of the basic UHDDS.

In discussion of the term diagnosis and its definition, consideration was given to another diagnostic group termed "presenting diagnosis or problem." This particular term was considered recognizing that the needs of concurrent review often must deal with a condition that is not a principal diagnosis as defined or in fact may be the description of a problem. The specificity of description of a patient's condition is likely to increase during hospitalization. The present principal diagnosis calls for a description after study of the reason for hospitalization. If collected before study or at admission, the description may be of a problem rather than an absolute diagnosis, and if a diagnosis is given, it may change. The diagnosis or problem descriptions represent, at the time they are recorded, the highest level of certainty supported by available clinical information.

The concept of the level of certainty and the presenting diagnosis or problem needs further exploration and eventual inclusion into the UHDDS. However, there are concerns that the presenting diagnosis or problem item does not meet the criterion of "needs of multiple users." Furthermore, experimentation with existing data to determine the cost benefits of this item as a component of the UHDDS should be undertaken. In line with the conservative view towards major change in the UHDDS the term is not recommended for present inclusion. However, it is recommended *that a cost-benefit study of the term be undertaken by the appropriate agency or agencies.* The study should focus on two aspects: (1) the volume of change in diagnostic or problem specificity through the period of hospitalization, and (2) the use of these multiple terms by multiple users. If the results are cost beneficial, the term should be included as one of the *five* abstracted diagnoses recommended. (See page 17).

12. *Procedures and Dates*

a. All significant procedures are to be reported. A significant procedure is one that carries an operative or anesthetic risk, requires highly trained personnel, or requires special facilities or equipment.

b. For certain significant procedures the identity (by unique number within the hospital) of the person performing the procedure and/or the date (or day of hospitalization) must be reported.

c. When more than one procedure is reported 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 that 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.

d. For UHDDS purposes to assure uniform reporting of significant procedures and complete reporting (the inclusion of the

Clinical Modification of ICD-9 (ICD-9-CM) have been grouped into four classes.[q]

Class 1. *Requires procedures code, date, and identity code of the person performing the procedure.* This class contains ICD-9-CM surgical procedures.

Class 2. *Requires procedures code and date.*

Class 3. *Requires only procedures code.*

Class 4. *Reporting not required.*

In general, Class 1 is "surgery"; Classes 2 and 3 correspond to "significant" procedures as defined. Procedures in these 3 classes are, in the definition, significant in that they carry an operative or anesthetic risk or require highly trained personnel or special facilities or equipment.

In terms of the data items required for Classes 1 and 2, procedures, month, day, and year should be recorded. However, for abstracting purposes, it is recommended that consideration be given to translating the calendar date into the day after admission when the procedure was performed. Although this coding process would require special training, the cost benefits of such a system can be quite good because a six-digit code would be replaced by a two-digit code.

Comment: Use of the UHDDS Classification of Procedures will greatly facilitate compilation of uniform statistical data for the United States, primarily because tabulations of "surgery" will be drawn from Class 1 and will not be distorted by the inclusion of other procedures which, although important, are not surgical in nature.

"Significant" procedures, Classes 1, 2, and 3, generally have an important impact either on the well-being of the patient or on the care system. Many procedures are relatively expensive because of sizable capital investments in facilities or specialized equipment, in manpower or other resources consumed in performing them, or in monitoring or other activities aimed at minimizing patient risk. Under usual circumstances they constitute medically legitimate reasons for admissions to hospitals, for extending hospital stays, and for scheduling special-purpose outpatient visits. The following criteria were employed in classifying procedures as significant for reporting in UHDDS and in data aggregation.

a. *Procedural risk.*—This term refers to a professionally recognized risk that a given procedure may induce some functional impairment, injury, morbidity, or even death. This risk may arise from direct trauma, physiologic disturbances, interference with natural defense mechanisms, or exposure of the body to infection or other harmful agents. Traumatic procedures are those that are invasive, including endoscopies and nonsurgical procedures that utilize cutdowns, that cause tissue damage (e.g., irradiation), or introduce some toxic or noxious substance (e.g., caustic test reagents). Physiologic risk is associated with the use of virtually any pharmacologic or physical agent that can affect homeostasis (e.g., those that alter fluid distribution, electrolyte balance, blood pressure levels, and stress or tolerance tests). In addition, any procedure in which it is obligatory (or usual) to utilize pre- or postmedications that are associated with physiologic or pharmacologic risk should likewise be considered as having a "procedural risk," for example, those that require heavy sedation or drugs selected for their systemic effects such as alteration of metabolism, blood pressure, or cardiac function.

Some of the procedures that include harmful exposures are those that can introduce bacteria into the blood stream, (e.g., cardiac catheterization) those capable of suppressing the immune system, those that can precipitate idiosyncratic reactions such as anaphylaxis after the use of contrast materials, and those involving substances with known systemic toxicity.

[q]Because of the number of the individual procedures within each class group, they have not been included in this report. These procedures are published separately in UHDDS Classes of Procedures, ICD-9-CM, Commission on Professional and Hospital Activities, September, 1978. Ann Arbor, Mich.

Long-life radioisotopes pose a special kind of exposure risk to other persons as well as to the patient. Thus these substances require special precautionary measures and procedures using them carry procedural risk.

b. *Anesthetic risk.*—Any procedure that either requires or is regularly performed under general anesthesia carries anesthetic risk, as do procedures under local, regional, or other forms of anesthesia that induce sufficient functional impairment necessitating special precautions to protect the patient from harm.

c. *Highly trained personnel.*—This criterion is important for procedures that are exclusively or appropriately performed by specialized professionals, qualified technicians, or clinical teams that are either specifically trained for this purpose or whose services are principally dedicated to carrying them out. Whenever specially trained staff resources are *necessary* or are customarily employed in the performance of a procedure, it is considered significant.

d. *Special facilities.*—A procedure that is dependent on the use of specialized facilities belongs in this category, e.g., a hyperbaric chamber for oxygenating the patient is significant; a simple diagnostic X-ray is not. The facility itself must make a direct contribution that enables the procedure to be carried out, such as a special physical layout necessary to remotely monitor the patient and thus to record sleeping EEG's.

e. *Special equipment.*—When special equipment required for a procedure is complex, not commonly available, or requires a high degree of skill to operate, the procedure is significant. Obviously these qualifications are relative and can be expected to change over time. In the past an electrocardiogram would have fit these criteria, but this is clearly no longer the case. Examples of specialized equipment that qualifies procedures for this category today include fiberoptics, ultrasound, thermography, xenography, and CAT scan equipment. Radioisotope scanners also meet this definition (even if short-life isotopes are used).

Class 4 contains (1) those procedures that ordinarily are not coded for hospital inpatients, for example, interviews, venipunctures, and component parts of physical examinations such as funduscopies; and (2) those procedures that are integral parts of procedures in the other classes, such as dressing of operative wounds and removal of sutures.

13. *Disposition of Patient*

a. Discharged to home (routine discharge).

b. Left against medical advice.

c. Discharged to another short-term hospital.

d. Discharged to a long-term care institution.

e. Died

Comment: The recommended "disposition" subcategory items were reduced from those in the original UHDDS. This change is recommended basically for purposes of accuracy. The original UHDDS contained the following disposition items:

a. Transferred to another short-term care institution.

b. Discharged or transferred to a skilled nursing facility (SNF).

c. Discharged or transferred to an intermediate care facility (ICF).

d. Discharged or transferred to another institution.

e. Discharged to home or self-care (routine discharge).

f. Discharged to home under care of an organized home health service.

g. Left against medical advice.

h. Died.

In the years since promulgation of the original categories it has generally been determined that they do not permit accurate data collection:

In the case of long-term care (items b, c, and d), the medical record as the primary

source document will usually not indicate the level of care, therefore, the degree of detail in the original items is not possible for accuracy.

In the case of home care (item f), the item is speculative; it is not known if the patient is actually receiving home care.

The UHDDS is basically designed to be a discharge data set, therefore, inclusion of transfers (items a through d) does not permit accurate and mutually exclusive abstracting.

It is realized that the recommended number of disposition items is small and may not allow sufficient detail for special area or program purposes. In those cases where a need for further detail is identified, cost justified, and controlled for validity and reliability, additional subcategories may be added if they remain separate from the basic UHDDS, or the existing subcategories can be more finitely detailed as long as the results of such detail can nest back into the recommended categories.

14. *Expected Principal Source of Payment*

a. Self-pay.

b. Workmen's Compensation.

c. Medicare.

d. Medicaid.

e. Maternal and Child Health.

f. Other government payments.

g. Blue Cross.

h. Insurance companies.

i. No charge (free, charity, special research, or teaching).

j. Other.

Comment: The currently recommended expected payment categories are identical to those in the original UHDDS with one exception. Maternal and Child Health has been included as a separate category in the current recommendation. Formerly, it was included within the "other" government payment category.

In developing the source of payment recommendation, it was recognized that UHDDS items are derived from the medical record and, therefore, more detail, than set forth above, would be required from the hospital's business office before an abstract could be completed. Therefore, the recommended items were limited to those most likely to be entered at the time of admission, and that will be incorporated into the medical record. It is underscored that these categories represent *expected* sources, not actual sources. Care, therefore, must be exercised in their analysis and interpretation.

Furthermore, as was the case with certain other UHDDS data items, if either further detail is required within existing categories, or additional categories are required, expansion should be permitted when it can be separated from the basic UHDDS or nested back into the recommended categories.

In retrospect, the TCP took a conservative position in their review of the original UHDDS. No changes, especially in terms of additional elements, were recommended unless it was felt necessary to improve accuracy and uniformity. Such was the case, as example, for the "procedures" data item. The Committee was somewhat hampered in their review because monitoring a data item's utility had not been systematically implemented with the original UHDDS. Therefore, quantitative information on absolute utility or disutility was not sufficiently available. Hopefully, an absence of evaluation will not occur after promulgation of this recommended version.

Neither the Panel nor their predecessors could resolve certain problems basic to minimum data sets and their linkage, such as those commented on previously concerning identifiers (person, physician, and institutional). Both technical problems and problems of confidentiality surround these identifying numbers. Hopefully, efforts will be instituted in the near future to provide more effective identification options in the identifier area than presently are available.

The Panel noted that it is still difficult within a hospital to link multiple episodes of individual care. Many hospitals are still using a serial number and filing system that precludes necessary and appropriate linkage. The Panel, in reference to the problem of a personal identifier (particularly in the patient number), recommends a patient identifier data set that uses several items from the UHDDS that are unique to an individual such as date of birth, ZIP code, etc. This

data set would permit a statistical linking of records without violation of individual confidentiality.

In sum, the recommended UHDDS does not offer a means for inter- or extrahospital record linkage. The group, however, supports the concept of such linkage.

Primary Source Document

The UHDDS concept focuses on data to be abstracted from a primary source document, usually the hospital medical record. Obviously, data cannot be abstracted from the document unless the following conditions prevail: the data are recorded as defined and/or classified as required by the UHDDS, have appropriate specificity (i.e., principal diagnosis, other significant procedures), and are organized to allow economy and accuracy of abstracting.

The medical record presents problems because, among hospitals, the uniformity of recording is questionable. The abstracting of information can be expensive because of record organization, and the validity of certain items is questionable because of the lack of specificity.

The problem of the primary source document in the operation of the UHDDS concept has been largely ignored, yet it is central to the entire concept.

During the early stages of UHDDS, the Hospital Research and Educational Trust, as part of their contract with the National Center for Health Services Research and Development (NCHSR&D)[1] conducted field tests on the feasibility of a primary source document form in the medical record that would contain all UHDDS data recorded with required specificity. The field test results indicated that this form (see appendix II) was feasible if the format[r] was locally controlled and the supplemental items to the UHDDS could be added. This concept was incorporated into the original UHDDS educational program materials.

The implementation of the primary source document form concept would assist hospitals in resolving the UHDDS validity and cost problems.

[r]The distinction between an abstracting form and a format became critical during the Panel's initial meetings especially regarding issues related to the Uniform Hospital Discharge Abstract (UHDA) proposal. The Panel used the following to differentiate between an abstracting form and format in a UHDDS context:

1. The content of *both* an abstracting form and format are identical.
2. A UHDDS abstracting form is a document prescribed in terms of shape, size, and content ordering.
3. A UHDDS abstracting format is a general plan of content ordering.

Form and Format

In discussion of the UHDDS abstracting form and format issues, it was concluded that:

(1) Technical or cost-beneficial justification does not exist for a nationally preprinted UHDDS *form*. Furthermore, it is not possible to design one form that will meet the discharge data needs[s] of multiple users at all geopolitical levels.

(2) There is no justification for a national UHDDS specific *format* because a uniform format cannot efficiently meet the discharge data needs of multiple users at all geopolitical levels.

(3) Justification to require the existing collection systems to undertake a costly change in their current forms to collect defined UHDDS items is unreasonable. Most of the existing resources are presently collecting the UHDDS.

(4) A recommended model format should be developed at the national level for implementation consideration by collection systems that *may develop*. This model could assist new organizations in considering effectiveness and economy of format design.

Regarding the conclusions it is recommended that:

(1) An appropriate agency or agencies should be charged with the development of a recommended model format for implementation consideration by UHDDS's related collection systems *that may develop*.

(2) A national UHDDS form or format should not be developed for required implementation by *existing* systems.

(3) Existing systems should be permitted to utilize their own collection forms for the UHDDS if they obtain the required data with appropriate specificity.

(4) Users of the UHDDS data at various geopolitical levels should not involve themselves in the design of data input instruments, but instead should concentrate on data output detail that is specific to their single or multiple needs. These specifications should be built around machine-readable formats rather than hard copy forms.

[s]It must be remembered that the UHDDS is a *minimum* set of data.

(5) Federal and national agencies should develop the necessary educational media focusing on the UHDDS elements to assure an understanding of the minimum data set and its components for valid and reliable abstracting of the material.

Regarding recommendation 5, the existing UHDDS educational programs (including those designed specifically for PSRO's) should be considered in toto or as a model for program content development (see page 4).

Diagnoses and Procedures: Considerations of Coding and Abstracting

A well-organized primary source document form is basic to the entire UHDDS. Included as part of the form is a listing with appropriate specificity of *all* UHDDS defined diagnostic and procedural terms. Assuming that document and specificity exist, the questions now are: How many diagnoses and procedures should be abstracted, should terms and/or codes be abstracted, and where or when should terms be converted to codes?

Principal diagnoses and procedures (if present) must be abstracted. The number of associated diagnoses and other significant procedures listed on the source form varies. The Panel recommends that as a general principle: (1) A maximum of five diagnoses (including the principal diagnosis) should be abstracted. Available information indicates such numeric limitation should not create a problem for a majority of hospital discharges (more than 90 percent of all discharges have a total of four or less diagnoses). However, when a listing of diagnoses on the source form exceeds the recommended five and *if* a clearly defined use can justify the cost of abstracting and processing additional diagnoses, a supplemental collection mechanism should be allowed but should be maintained separately from the basic UHDDS configuration. (2) All Class 1, 2, and/or 3 procedures listed on the source form should be abstracted.

When abstracting the UHDDS diagnoses and procedures from the source form, the current practice is (1) to abstract only the diagnostic or procedures codes,[t] (2) to abstract only the terminology, or (3) to abstract both the code and the terminology.

In the three current methods of abstracting, it is felt that method one (code only) is probably the most cost beneficial among multiple users. However, it is recognized that for reasons of accuracy and program needs, the second method has its place. The third method should be discouraged except for short periods of time.

It is recommended that each program involved in the abstracting of UHDDS should reconsider its current abstract method by examining the following factors: program need for both the code and the terminology, accuracy of coding on a decentralized (hospital level) versus a centralized (system) basis, the provider's cost for both coding and abstracting, and the user's cost for storage, processing, and coding. The method decided on should be determined by the collection system, but the method selected must be cost beneficial.

Several factors must be considered before converting terms to codes:

Coding is an art not a science and consequently subject to considerable variation.

Decentralized coding (coding done in the hospital before or at the time of abstracting) does not require the diagnostic and procedural term to be abstracted. Consequently, on the surface it is cost beneficial. However, because of variation in coding accuracy, abstracting codes only is error prone and does not permit easy validation.

Centralized coding (coding done at a location other than the hospital, and done for many hospitals on the basis of abstracted terms) is not subject to variation in accuracy that is present in decentralized coding. However, it can present some cost-benefit problems and time delay.

In reference to diagnostic and procedural coding,. the following are recommended:

(1) A designated data broker[u] in each area should be held responsible for coding accuracy. The

[t]Only the new U.S. version of ICD (ICD-9-CM) should be used when coding. Operation began on January 1, 1979, and the ICD-9-CM has already been endorsed by the USNCVHS, DHEW, for special program purposes, and major nongovernmental groups associated with the delivery of hospital care.

[u]A data broker was defined as "an organization possessing the technical resources including manpower to facilitate at least the collection and processing of health statistical data (including but not limited to the UHDDS) to meet user needs at local, State, and national levels. The particular collection and processing role of a broker in a service area (normally a State) will vary. This variation will depend upon the capacity of already existing collection and processing resources within the area. The broker will not duplicate existing resources. Rather, it will expand upon such resources as exist and will develop its own collection and processing capacity only in the absence of existing resources.

Regardless of a variation in collection and processing roles among brokers, all brokers will have the responsibility within their service area for assuring data collection and output accuracy, completeness, validity, and reliability and in conformity to developed standards and guidelines."

broker must have sufficient delegated authority from multiple program users to assure coding accuracy.

(2) In those hospitals that demonstrate and maintain a high degree of coding accuracy, only the codes and not the terms should normally be abstracted. Coding should be performed on a decentralized basis.

(3) In those hospitals that do not have the capacity for coding or cannot code accurately, only the terms should be abstracted, and coding should be performed centrally.

(4) If only terms are abstracted, they should not be machine processed; only codes should be translated into machine-readable form.

(5) Under normal circumstances both codes and terms should not be continuously abstracted. Such dual abstracting is not generally cost beneficial. For initial determination of accuracy and periodic monitoring of continued accuracy, both may be abstracted but only for short periods of time.

UHDDS Revision and Promulgation

To assure that the revised UHDDS as well as the other minimum health data sets have the desired positive impact on the health statistics system, the following recommendations are offered and are based on the assumption that action requested by the USNCVHS will be implemented promptly. A specific recommendation is for one office to be designated within DHEW "for promulgating all uniform basic data sets, for monitoring their implementation, for informing the public, professional, and institutional agencies and organizations, and for receiving suggestions for implementation, or for modification or revision of each uniform basic data set."

This action is critical to the development and maintenance of the uniform data concept. Failure to comply in the early stages of the original UHDDS was a major reason for the present problems. It is stressed that the functions described by the USNCVHS must be administered by an office appropriately staffed and funded for such an undertaking. The office should have access to external advisors and committees, but these mechanisms are not pertinent to directly accomplish its functions.

In specific reference to the recommended UHDDS, the office should take the necessary steps to ensure:

(1) An updating of the original UHDDS educational material. This material should be used as the basis for education and training according to the recommended UHDDS.

(2) Developing and overseeing the implementation of a schedule for UHDDS promulgation that includes education and training, field implementation, and monitoring.

(3) Insuring following field implementation that evaluation mechanisms are available to determine the strengths and weaknesses of the UHDDS efforts as well as the data set. As a part of the evaluation, a moratorium should be enacted to change the UHDDS for a specified time to permit evaluation.

(4) Promoting, if not developing, the series of studies currently recommended regarding the existing UHDDS technical and conceptual problems.

(5) Developing the necessary advisory mechanisms to assist in the previously listed efforts.

(6) Insuring that a review of the UHDDS is undertaken at least every 3 years.

Section V. Final Commentary

In late 1975, when the USNCVHS reviewed the status of the UHDDS and its collection, the data set and the efforts related to it were somewhat in disarray. The charges referred to the Technical Consultant Panel by the parent committee basically evolved from problems relating to implementation of the original UHDDS. The problems could be characterized as those resulting from a failure to follow through.

At the end of the developmental period (1973) of the original UHDDS, no systematic effort was initiated to promulgate the data set and its concept. Supportive material for education, training, and data use was underutilized. No mechanism was established to monitor and evaluate UHDDS installation and use. No reference center was established to provide technical support to the field concerning all aspects of the UHDDS.

Despite an absence of systematic promulgation, the UHDDS concept survived albeit with a low profile and was implemented partially; existing discharge abstract systems over time adopted the data set items and definitions revising their own traditional terminology in the process. The term UHDDS is commonly used in health statistics and, most importantly, the minimum data concept has been actively expanding to other aspects of health care. In brief, progress has occurred slowly but perhaps more realistically than expected at the initial Conference on Discharge Abstract Systems in 1969.

The UHDDS, in the present review, remains relatively unchanged, perhaps a positive reflection on the initial efforts of the individuals who developed the original concept and drafted the first version of the data set. The one major contribution of the present Panel regarding the data set was a significant change in the procedures item and its corresponding definition. This represents a major step towards uniformity and accuracy.

The present Panel in its deliberations had a stronger focus on the issue of collection and use of the UHDDS than its predecessors. Therefore, the central issue now is not what is collected, but who collects, how it is collected, and who has access to the products and under what circumstances. The issue of the Uniform Hospital Discharge Abstract, largely unreported in this document, consumed a large portion of the Panel's initial efforts. The initial UHDA plan was withdrawn, which is indicative of the inherent proposal problems, but unfortunately the positive aspects of that plan and its objectives remain untested. The larger issues and concerns that initiated that plan regarding the UHDDS and necessary linkage to claims data still remain untested and consequently unresolved.

The formally endorsed data broker concept is a new but probably not an original aspect of the current efforts. Much remains to be accomplished in the development and implementation of the concept, but the initial outline has been drawn. On a smaller scale, the recommendations offered concerning the improvement of the primary source document and the quantity and coding of diagnoses and procedures are positive. Finally, while only partially involving the TCP, the elimination of multiple diagnostic and classifications systems through the development and implementation of ICD-9-CM is a major progressive step.

Despite the growth of UHDDS efforts over the last few years, a number of major issues involving aspects broader than the UHDDS *per se* remain unchanged, such as the unresolved need for universal identifiers, effective mechanisms to permit public accountability yet retain confidentiality, useful and economic methods of geocoding, and the development of population use analyses. These and other unspecified items are already forming the basis for charges to the next group reviewing the UHDDS.

APPENDIX I

CHARGES TO THE UNIFORM HOSPITAL DISCHARGE DATA SET TECHNICAL CONSULTANT PANEL

1. To review terms, definitions, and classifications currently approved by the USNCVHS for the UHDDS;

2. To consider the UHDDS in relationship to the needs for Medicare, statistical purposes, utilization review, PSRO use, health planning, the CHSS, and epidemiological and etiological research;

3. To review the use of Social Security Number for provider identification;

4. To recommend formats, timing, and circumstances for capturing/recording data elements and for the flow of the data through information brokers, data processors, State centers for health statistics, and other units responsible for sampling, aggregating, and tabulating data;

5. To recommend formats to be used for the UHDDS;

6. To recommend formats for possible supplementary items;

7. To recommend the number of diagnosis to be coded and location where the coding should be done;

8. To recommend the flow of data and control of data;

9. To recommend the use of coding and classification schemes;

10. To recommend solutions for the problems of geocoding so that the data needs of different political or geopolitical jurisdictions can be accommodated;

11. To consider problems in merging the UHDDS abstract form (Uniform Hospital Discharge Abstract-UHDA) and the claims form for all abstracts and for a sample of these;

12. To recommend mechanisms for revising the UHDDS and the periodicity for such revisions;

13. To make other recommendations relevant to the promulgation and implementation of the UHDDS; and

14. To consider problems of confidentiality.

DISCHARGE SUMMARY

KEYS

MARITAL STATUS.
1-NOW MARRIED 2-WIDOWED 3-SEPARATED OR DIVORCED 4-NEVER MARRIED

ADMITTED FROM
1-EMERGENCY ROOM 2-ECF OR SKILLED NURSING HOME 3-OTHER HOSPITAL
4-OTHER TYPE OF INSTITUTION 5-ALL OTHER SOURCES

PREVIOUS ADMISSION WITHIN
1-ONE MONTH 2-TWO MONTHS 3-THREE MONTHS 4-SIX MONTHS
5-OVER SIX MONTHS 6-NONE OR UNKNOWN

NAME/CHARGE PLATE

TYPE "D" IN CENTER OF EITHER BOX TO CORRECTLY ALIGN TYPEWRITER

SERVICE:

HOSPITAL NUMBER	MEDICAL RECORD NUMBER	BIRTH DATE	SEX	MARITAL STATUS	DATE ADMITTED	DATE DISCHARGED	TOTAL DAYS STAY	ADMITTED FROM	PREVIOUS ADMISSION WITHIN
		MO. DA YR.	MALE-1 FEMALE-2	SEE KEY	MO DA. YR.	MO DA. YR.		SEE KEY	SEE KEY

CODES

PRINCIPAL

ASSOCIATED

NONSURG. PROCEDURE

A R A R

SURGICAL CODE (1) SURGICAL CODE (2)

MONTH DAY

SURGICAL CODE (3) SURGICAL CODE (4)

MONTH DAY

HOSPITAL RESEARCH AND EDUCATIONAL TRUST 1971

DISCHARGE SUMMARY (TO BE COMPLETED BY PHYSICIAN)

CHIEF SYMPTOM ON ADMISSION:

PRINCIPAL DIAGNOSIS:

ASSOCIATED DIAGNOSIS (ES):

PERTINENT FINDINGS:

THERAPY IN HOSPITAL (MEDICAL AND SURGICAL): DATE OF OPERATION:

CONSULTATION: 1-YES 2-NO BLOOD TRANSFUSION: 1-YES 2-NO PACKED CELLS WHOLE BLOOD

COURSE OF ILLNESS: 1-COMPLICATIONS 2-NO COMPLICATIONS MEDICATION REACTION: 1-YES 2-NO

DISPOSITION: 1-FAMILY RESIDENCE 2-FAM. RES. WITH ORG. HOME CARE SERVICE OR VNA 3-OTHER HOSPITAL 4-ECF OR SKILLED NURSING HOME 5-OTHER TYPE OF HOME OR INST. 6-AGAINST MEDICAL ADVICE 7-DIED NO AUTOPSY 8-DIED AUTOPSY BY HOSP. PATH.

CORONER OR ME CASE:

DISCHARGE RECOMMENDATIONS (MEDICATIONS, RETURN DATE ETC.):

PHYSICIAN

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