REPORT OF THE
SECRETARY OF ADMINISTRATION

Study Of A Consolidated Health Care Data Base in Virginia

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

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Office of the Governor
Richmond 23219

Andrew B. Fogarty
Secretary of Administration

January 10, 1984

TO: The Honorable Charles S. Robb
Governor of Virginia

and

The General Assembly of Virginia

As you know, the 1984 General Assembly passed House Joint Resolution 27, requesting that the Secretary of Administration coordinate a study of the feasibility of establishing a Consolidated Health Care Data Base for Virginia. Enclosed for your review and consideration is the report prepared in response to this resolution.

Respectfully submitted,

Andrew B. Fogarty

Andrew B. Fogarty
Secretary of Administration

Stuart W. Connock

Stuart W. Connock
Secretary of Finance

CONSOLIDATED HEALTH CARE DATA BASE STUDY
(In Response to House Joint Resolution 27)

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I. EXECUTIVE SUMMARY

The health care system in the United States and in Virginia appears to be undergoing rapid and profound changes in organization, behavior of providers, and patterns of utilization. Recognizing the increased need for information about the health care system created by current changes in health care, and recognizing that there are significant deficiencies in existing health care data, the Joint Subcommittee Studying the Feasibility of Preserving a Regional Health Planning Mechanism in the Commonwealth introduced House Joint Resolution 27 in 1984, which called for a study of the feasibility of establishing a consolidated health care data base for Virginia.

A truly consolidated health care data base for a state is almost beyond imagination, certainly beyond feasibility, due to the volume of data, the number and variety of sources involved, and the lack of uniformity with which data are recorded and facts are classified. The practical question then is where effort can best be directed to improve the availability and usefulness of health care data.

Hospital services and physicians' services provided in hospitals account for more than half of the nation's health care expenditures. Virginia and most other states have recently established a uniform billing document or billing format, known as UB-82, which must be used for nearly all hospital inpatients and a majority of emergency room and other hospital outpatients. The UB-82 data set could serve as the principal or sole source of input data for a statewide hospital patient data base.

Such a data base would not provide data on hospital expenses, which are already collected and analyzed by the Virginia Health Services Cost Review Commission, and which are based on a different set of forms and procedures for reporting and analyzing financial data. A more uniform accounting or financial reporting system for hospitals does not appear to be practical or necessary or particularly relevant to the principal data need identified in this study.

Statewide hospital patient data bases have been established or are being established in a number of states. Six such data bases (Iowa, Illinois, Maine, Maryland, Massachusetts, and New York) are described in this study. Most of these are operated by private, not-for-profit corporations. Two were organized as consortia of various parties involved in the health care field. However, only one of these data bases depends on voluntary reporting of data, and most of the data which it receives is required to be reported to a state agency anyhow. Annual expenses of these data base organizations are reported to range from about $100,000 to about $500,000, depending on the nature and volume of input data and the scope of services provided.

Maintaining appropriate confidentiality of information in a hospital patient data base is an important concern. While there is universal agreement that data must not be released to data users in a manner which identifies individual patients or indirectly permits their

identification, there are important differences among existing data base organizations in the procedures for accomplishing this. Issues of confidentiality with respect to physicians and institutions are quite different than with respect to patients, since a principal reason for developing a hospital patient data base is to identify variations among providers--especially among hospitals--in patterns of utilization of health services and charges for these services. Identification of physicians should probably be handled differently from identification of hospitals.

This paper presents views from various sources, including state legislatures, a national association of major employers, the industry association of commercial health insurers, and health care researchers, showing that a hospital patient data base can contribute to improved public and private decisions about the provision and use of health services, so as to reduce the growth of expenditures while maintaining or increasing quality, accessibility, and patient satisfaction with care. These views are shared by the health system planning agencies in Virginia.

It is recommended that the Commonwealth move forward with the establishment of a statewide hospital patient data base and that the General Assembly adopt a resolution directing the following actions:

--That the staff of the Department of Health, in conjunction with other state agencies (Virginia Health Services Cost Review Commission, Department of Information Technology) proceed with more detailed investigation of the principal issues identified here and of the operation of such data bases in other states.

--That State staff have detailed discussions with the Virginia Hospital Association, the Medical Society of Virginia, health insurers, and employer groups concerning their views about and participation in a statewide hospital patient data base.

--That staff prepare a report, based on the foregoing investigation, setting forth detailed recommendations, including estimates of revenues and expenses, concerning the establishment of a statewide hospital patient data base.

It is further recommended that the General Assembly appropriate $15,000 to carry out the investigation and prepare the report described above.

II. INTRODUCTION AND BACKGROUND

For more than a decade the size and rate of growth of the nation's expenditures for health care, especially for institutional health care, have been matters of widespread concern, both to individual citizens and to government officials. Across the nation various approaches to controlling health care expenditures have been instituted, particularly utilization review, capital expenditure limitations, and rate setting. These approaches seem to have had only a modest impact on the course of health care expenditures (although both hospital admissions and days of care have shown a trend of decreasing annual rates of growth over the past ten years).

From viewing the limited success of these approaches, knowledgeable observers of the health care system have generally concluded that these approaches suffered from two major weaknesses. First, they focussed principally on the price or cost of individual units of health services, rather than on the cost or price of treating a given condition and the nature and volume of services consumed in that treatment. Second, these approaches were based on centralized regulation and contained few incentives to affect the choices of individual patients and physicians with respect to either the prices/costs of units of service consumed or the nature and volume of services consumed. Neither patients nor physicians had much incentive to seek out price-competitive services or to adopt treatment patterns that minimized the volume of services consumed and substituted low-cost forms of service for high-cost forms of service where possible.

Reflecting these conclusions, a variety of new forces and arrangements are emerging in the health care field. Many of these are built around the concept of putting the provider at some degree of financial risk for his decisions on how to produce individual units of service and how to combine different services to treat a given patient condition. Health maintenance organizations, preferred provider arrangements, and the diagnosis-related-group method of paying for hospital inpatient services all contain incentives to seek low cost in the production of individual units of service and efficiency in the mix and volume of services used to treat a particular patient condition.

In addition to the development of arrangements to put the provider at some degree of financial risk with respect to his decisions on how to provide health care, health care insurers (both public and private) are seeking to involve the patient more actively in choosing efficient forms of health care, either by educating the patient or by providing financial incentives to choose low-cost sources and forms of care.

A reliable base of information on the functioning of the health care system must be available to guide insurers in designing economic incentives and educational programs and to guide patients and providers in making choices in response to these initiatives by the insurers. Equally important, the creation of new economic incentives in health care will alter the behavior of patients and providers, perhaps bringing about fundamental changes in the organization and use of health care services. Health care providers, health care insurers, the public, and government all need to be aware of these changes as they are occurring, so that each group can intelligently adjust its behavior to the changing circumstances, which may affect not only expenditures for health care, but also the quality of care, the accessibility of care, patient satisfaction with the health care system, and the general health status of the population.

This need for accurate, well-organized, relatively detailed, timely, and appropriately consolidated information on the functioning of the health care system is not matched by the availability of such information. In general, existing information is of widely varying accuracy, often fragmented and unconsolidated, frequently not comparable among sources, often too general, and subject to long delays in collection and processing.

Reflecting their view that current changes in the health care system are creating an increased need for data on the functioning of the system, members of the 1984 General Assembly who served on the Joint Subcommittee Studying the Feasibility of Preserving a Regional Health Planning Mechanism in the Commonwealth introduced House Joint Resolution 27, which called for a study of the feasibility of establishing a consolidated health care data base for Virginia. HJR 27 (Attachment 1) also directed that the study examine the following issues:

--The feasibility of requiring a uniform accounting system or form;

--The means to protect the privacy of institutions and individuals;

--The adequacy of the information contained on UB-82; and

--The cost and efficiency of establishing such a data base.

The Departments of Health, Management Analysis and Systems Development (now Department of Information Technology), and Planning and Budget were requested to conduct the study, to be coordinated by the Secretary of Administration and Finance (now the Secretary of Administration). In subsequent communications among the departments involved, it was determined that the Department of Health would have the lead responsibility for the study and that representatives of the Department of Information Technology and Department of Planning and Budget would be available for technical consultation as needed.

In conducting this study, the Department of Health has obtained the views of members of the health care provider, insurer, and planning communities, both within and outside Virginia. In addition, a meeting of various representatives of these communities was held on October 31. A report of this meeting, a list of persons invited and attending, and letter of invitation describing the topics for discussion are attached (Attachment 2).

The study presented here is not a "nuts and bolts" study of designing a particular data system. Rather, it does the following:

--Examines the existing health care data situation in Virginia;

--Identifies the most important deficiency with respect to existing health care data in Virginia;

--Describes UB-82 (newly implemented uniform billing document for hospital services) and its potential to serve as the principal data source for a statewide hospital patient data base;

--Examines the issues of uniform accounting and confidentiality;

--Shows the various ways in which a statewide hospital patient data base could improve public and private decision-making; and

--Recommends the next steps to be taken toward development of a statewide hospital patient data base.

An overall summary and recommendations section of this study begins on page 35. Also, each preceding section of the study, devoted to one of the topics listed above, contains its own brief summary and conclusions.

III. A DESCRIPTION OF THE CURRENT HEALTH CARE DATA SYSTEM IN VIRGINIA

The health care industry consists of a wide variety of provider types, offering numerous kinds of services to persons with various combinations of medical care needs. Elements of the health care industry may be described initially in terms of where the patient receives services, sometimes referred to as the "setting" of the service. Ambulatory care is rendered to a patient at the provider's location and does not involve overnight lodging of the patient at the provider's location. A typical example of this setting is a physician's office. Home care is rendered to a patient at the patient's home. Such care is typically provided by a home health agency. Mobile care is that which is provided in a vehicle, most commonly an ambulance. Inpatient (or institutional) care is rendered to a patient residing overnight at the provider's location. Hospitals and nursing homes are typical examples of inpatient care settings.

A given provider may offer services in more than one setting. For example, hospitals usually provide both inpatient and ambulatory care, some hospitals offer home care services, and some home care practitioners provide services to nursing home residents. Nonetheless, an initial categorization of health care according to setting is useful, because it tends to group providers according to their patients' overall level of impairment and, consequently, the relative intensity and cost of health care resources used.

For each of these settings of care or broad categories of providers, the major types of providers are listed below with a brief description of data currently submitted by them to various parties. For each provider, there are five possible categories of data: facilities (buildings and equipment), personnel, patients, services, and finances (revenues, expenses, charges).

Ambulatory Care

1. Physicians' Offices. Uniform data are generally not available for public use. Nationally, approximately 62% of physicians' service revenues are from third-party payers such as Medicare, Medicaid, Blue Shield or commercial insurance companies. Information on patients, services, and charges is provided (either by the physician or by the patient) in a uniform manner to a given payer, but not in a uniform manner across all payers. There is no mechanism for aggregating this data and making it available for public use. No such data are reported to any source for services to direct-pay patients. Data on physicians are available through State licensure records, which provide information on practice locations, nature of the practice, specialty, age, and other characteristics; however, most of this information is no longer being processed by the Department of Health Regulatory Boards and published in a useful aggregate form. Data on other personnel working in this setting are extremely limited. Information on physicians' office facilities is not reported

in any manner. A general, composite view of physicians' office activities is available through occasional national sample surveys.

2. Dentist's Office. Comparable with physician's office, except that third-party payments represent less than 30% of these provider's revenues.

3. Health Department Clinic. Comprehensive data on facilities, personnel, patients, services, and finances are available through the Department of Health. Although this information is not organized into a single aggregate data base, especially the data on patients and services received, various improvements in data management are in progress.

4. Hospital Emergency Room. General data on facilities, personnel, volume of services, and finances are available to the Virginia Health Services Cost Review Commission; certain institution-specific data are held confidential by the Commission. Comprehensive data on facility design are provided to the Department of Health for purposes of licensure. Very general data on service volume and type of patients are provided to the Department of Health through the Annual Survey of Hospitals; however, the process of collecting, tabulating, and verifying these data results in their being 6 to 9 months out of date when available for public use. For those patients insured by third-party payers (such as Blue Cross, Medicare, Medicaid, or commercial insurance companies), uniform data on patient characteristics and services received are obtained by the payer. All major payers in Virginia are receiving such data in a uniform billing format or document (UB-82) as of October 1, 1984. However, a mechanism for aggregating these data across all payers has not been established, and these data are not now available for public use.

5. Hospital Outpatient Department. Comparable with hospital emergency room.

6. Renal Dialysis Facility. General data on facilities, personnel, and services are provided to the Department of Health through the federally-designated End Stage Renal Disease Network serving the region in which the facility operates and are provided directly to the Department as required for certification for participation in Medicare. Detailed data on patients, services, and finances are compiled by Medicare, which provides reimbursement on behalf of virtually all these patients. These data are available for public use.

7. Outpatient Surgical Hospital. Comparable with hospital outpatient department.

8. Freestanding Ambulatory Care Center. Comparable with physician's office.

Home Care

1. Home Health Agency. Limited data on each agency's personnel, scope and volume of services, and expenses are provided to the Department of Health, either voluntarily or as required for certification for participation in Medicare. Data on specific patients and services received are available to third-party payers. There is presently considerable variation among agencies regarding the nature and extent of data maintained. However, Medicare will require the use of UB-82, and other major third-party payers may require its use, before the end of 1985, with a corresponding opportunity for the development of a useful aggregate data base.

2. Hospice. Comparable with home health agency.

3. Independent Rehabilitation Agency. Limited data on each agency's personnel and scope of services are provided to the Department of Health as required for certification for participation in Medicare or Medicaid. Data on specific patients and services received are available to third-party payers, but these data are not presently uniform across all payers. However, the expected use of UB-82 by these agencies to bill Medicare starting in 1985 will offer an opportunity to develop a useful aggregate data base.

4. Other Practitioners. Limited personnel data are available from State licensure records pertaining to individual practitioners (such as registered nurses) and from records pertaining to certification of independent physical therapists for participation in Medicare.

Mobile Care

1. Mobile Emergency Care. General data on provider organizations, facilities, personnel, and types and volume of services are provided to the Department of Health. For services covered by third-party payers, specific data on patients and services received are available to the payer, but not in a uniform manner across all payers.

2. Other Mobile Care. Availability of data depends upon the characteristics of the host institution and the coverage of services by third-party payers. A mobile laboratory service sponsored by a hospital would, for example, provide data in a manner comparable with a hospital outpatient department.

Inpatient Care

1. Hospital. Various data are provided to numerous entities. General data on nonfederal acute-care (including private

psychiatric) hospital facilities, personnel, types and volume of services, and finances are provided to the Virginia Health Services Cost Review Commission, which holds some institution-specific data confidential. Similar data, but less detailed and without financial information, are provided to the Department of Health through the Annual Survey of Hospitals or as required for certification for participation in Medicare or Medicaid. However, the process of collecting, verifying, tabulating, and publishing the Annual Survey data results in their being from 9 to 15 months old at the time of publication and from 21 to 27 months old by the time the next annual published update is available. Comprehensive data on facility design are provided to the Department of Health for purposes of licensure. Comprehensive patient-specific data showing patient characteristics, conditions, and services received are provided to third-party payers, whose reimbursements amount to nearly 90% of all hospital revenues. As of October 1, 1984, all major third-party payers receive data on UB-82. However, a mechanism for aggregating these data across all payers has not been established, and these data are not now available for public use. Hospitals also typically provide patient-specific discharge abstract data (including diagnoses, procedures performed, patient characteristics, etc.) to an outside firm specializing in medical service data processing and analysis for the hospital, the largest of these being the Commission on Professional and Hospital Activities in Ann Arbor, Michigan. Such data are held confidential, but certain aggregate data are regularly published or may be available upon request. Federal hospitals voluntarily provide general data on facilities, personnel, and scope and volume of services to the Department of Health through the Annual Survey of Hospitals; more detailed data are provided to federal authorities. State-operated psychiatric facilities do not provide data to the Virginia Health Services Cost Review Commission; however, comprehensive data on facilities, personnel, patient characteristics, scope and volume of services, and expenses are available through the Department of Mental Health and Mental Retardation. The state-operated non-psychiatric long-term care hospital (Woodrow Wilson Rehabilitation Center) provides general data on facilities, personnel, and scope and volume of services, to the Department of Health through the Annual Survey of Hospitals. Patient-specific data are not aggregated in a uniform manner.

2. Mental Health Residential Facility. Comprehensive data on facilities, personnel, patient characteristics, scope and volume of services, and expenses are available through the Department of Mental Health and Mental Retardation (DMHMR) for State-operated facilities. Limited data are provided to that agency and to the Department of Health by independent facilities, either voluntarily through the Annual Survey of Hospitals or as required for DMHMR grant funding.

Patient-specific data are provided to third-party payers but not on a uniform basis across all payers.

3. Nursing Home. General data on facilities, personnel, patients, services, and expenses are provided to the Department of Health through the Annual Survey of Nursing Homes or as required for certification for participation in Medicare or Medicaid. However, the process of collecting, verifying, tabulating, and publishing the Annual Survey data results in their being from 9 to 15 months old at the time of publication and from 21 to 27 months old by the time the next annual published update is available. Comprehensive data on facility design are provided to the Department of Health for purposes of licensure. For patients covered by third-party payers, specific information on facilities, patient characteristics and services received, and expenses are provided to a given payer. At present, these data are not uniform across all payers, but approximately 70% of Virginia nursing home patients are covered by Medicaid. The UB-82 billing format is expected to be in use for all major payers by late 1985, which will increase the opportunity to develop a useful aggregate data base.

Summary and Conclusions Regarding the Current Health Care Data System

The preceding overview of health care data in Virginia has examined data availability according to provider types, organized into four broad provider categories or settings (ambulatory, home, mobile, and inpatient), and according to five data topics: facilities, personnel, patients, services, and finances. Every provider has data in some place on each data topic, but for most types of providers the data are highly disaggregated and vary substantially among individual providers with respect to structure and content.

For example, the bulk of ambulatory care data resides in the office records and data systems of thousands of individual providers. Thus, while ambulatory care is a large and key component of the health care system, development of a comprehensive statewide data base on ambulatory care seems out of the question (which is not to say, however, that ambulatory care should be completely excluded from efforts to improve data availability for public use).

Because there are fewer types of providers and far fewer individual providers delivering home care and mobile care than ambulatory care, data relative to these care settings are not nearly so disaggregated as for ambulatory care. However, home and mobile care are relatively minor parts of the health care system, for which development of a statewide data base would have limited usefulness to the general public or for major health policy decisions by government.

In fact, and for good reasons, areawide health care data bases generally focus on inpatient care, primarily short-stay general hospitals, and to a lesser extent nursing homes. Hospital care and physicians' services provided in hospitals account for more than half of the nation's personal health care expenditures. Hospitals are the centerpiece of the American health care system. Reflecting this importance, hospital data are comparatively well developed, relatively standardized, aggregated to a considerable degree, and partially available for public use.

However, as noted in the preceding overview, patient-specific data on hospital patient characteristics, conditions, services received, and charges are not completely aggregated and are not available for public use in Virginia. With the recent initiation of the UB-82 format for nearly all hospital billing, the essential elements of hospital data on patient characteristics, conditions, services received, and charges are now standardized in Virginia and could feasibly be aggregated and made available for public use.

In summary, a vast amount of data on the health care system in Virginia is not available for public use, could not feasibly be made available for public use, and would be of limited usefulness if made available. Hospital discharge and billing data, however, have a number of extremely important public uses and, particularly with the advent of UB-82, can feasibly be made available for public use with appropriate safeguards. Discussion and efforts relative to the establishment of a consolidated health care data base for Virginia should focus on hospital discharge and billing data (though not necessarily to the exclusion of data from other providers, especially data provided via UB-82). The balance of this report discusses various aspects of a statewide hospital patient data base, beginning with a discussion of UB-82.

IV. UNIFORM BILLING FOR HOSPITAL SERVICES (UB-82)

A uniform set of information for billing third-party payers for inpatient, outpatient, and emergency room hospital services went into effect in Virginia on October 1, 1984. Known as UB-82, this form or information set was developed for national use by the U.S. Health Care Financing Administration under the guidance of the National Uniform Billing Committee, which consisted of representatives of the Health Care Financing Administration, Blue Cross/Blue Shield Association, Health Insurance Association of America, Office of Civilian Health and Medical Programs of the Uniformed Services, Federation of American Hospitals, American Hospital Association, and various state hospital associations.

The development of a uniform hospital bill had been actively discussed for about ten years. Medicare's decision to implement now a uniform national bill for hospital submission to Medicare intermediaries created an opportunity for the insurance industry to seek uniformity in the content and format of claims submitted to them and an opportunity for hospitals to reduce the number of different kinds of bills they have to prepare. The establishment of a Medicare payment system based on patient characteristics, diagnoses, and the presence or absence of surgery required that the billing document show these data as well as specific services provided and their associated charges.

Thus, UB-82 encompasses data on patient characteristics, patient conditions, operative procedures, discharge status, and other items that have previously been part of hospital discharge abstract (a summary of the medical record) data, but not part of hospital billing data. At the same time, UB-82 provides much more detailed information on services provided to the patient than is included in discharge abstract data, and UB-82 provides total charges and charges for each type of service listed, information totally excluded from discharge abstract data.

Thus, in most states, UB-82 creates for the first time a single document or single set of data which encompasses all the major categories of information about a patient's hospital episode. UB-82 also creates for the first time a set of data which is prepared in an essentially uniform manner across the nation for nearly all patients. Furthermore, some hospitals do not process and summarize discharge abstract data, and for these hospitals UB-82 constitutes the first practical basis for summarizing, analyzing, and reporting their patient characteristics, diagnoses, and operative procedures.

Although UB-82 is a common form for national use, the specific manner in which the form is completed varies slightly from state to state and even among payers within the state. Most of these differences relate to whether or not an item is required to be reported. If an item is required to be reported, the manner of reporting and coding is generally the same for all payers. Virginia, and undoubtedly most other states, have established a state uniform billing committee to work out a set of rules acceptable to hospitals and major payers in the state.

All major payers of hospital services in Virginia are accepting UB-82, with some variations in the amount of detail. All commercial insurers using UB-82 in Virginia have agreed on a single set of instructions to hospitals for preparing bills to them. However, acceptance of UB-82 is voluntary, and not all commercial insurers in Virginia are accepting UB-82 as a basis for payment. Those not accepting UB-82 have a small share of the market, and it is expected that over time acceptance of UB-82 will increase.

A more serious, though localized, problem with respect to UB-82 acceptance is that some self-insured employers do not accept UB-82, because it provides insufficient charge detail to permit a detailed audit. Also, some health insurance contracts require the insurance carrier to adjudicate claims on the basis of individual charge items or require the carrier to report detailed charges to the purchaser. In these cases, UB-82 does not provide sufficient detail, because it does not identify individual units of supplies or individual units of some services. Because of the somewhat summarized charge information and because of the extensive use of codes and abbreviations, UB-82 is not used to bill individuals who are not covered by third-party payment for hospital services.

Nonetheless, UB-82 is now being prepared on nearly all hospital inpatients in Virginia and at least a majority of hospital outpatients, especially for substantial outpatient services, where third-party payment is usually involved. Some, but not all, hospitals are preparing the UB-82 data set on all patients, even if UB-82 will not be the billing document for some of these patients. However, to speed up their billing process, some hospitals have a UB-82 printed at a set time after the patient's discharge, even if some required information is missing from the computer file. The missing information is then obtained and posted manually to the billing document, but not entered into the computer file. These hospitals are therefore not creating a complete computer file of UB-82 information, although the payer does receive a complete data set.

Apart from hospital services, UB-82 will be used to bill Medicare for skilled nursing facility services and home health services beginning in October 1985. This may lead other payers to accept or require the use of UB-82 for billing for these services. It is also expected that beginning in 1985 nursing home services in Virginia will be billed to Medicaid using UB-82, although the implementation of this is yet to be worked out.

Summary and Conclusions Regarding UB-82

In summary, the establishment of UB-82 as a uniform bill to be used for most hospital (inpatient, outpatient, and emergency room) patients in Virginia constitutes a breakthrough in creating a uniform single data set encompassing patient characteristics, patient conditions, services received, and charges associated with a hospital visit. Heretofore, most hospitals have not had a single data set encompassing both patient information and charge information, and the separate data sets varied considerably among hospitals.

Thus, UB-82 provides a practical and useful basis for developing a statewide data base on hospital patients. All hospitals must prepare UB-82, either manually or electronically, and for most hospitals UB-82 will be required for more than 85% of inpatients and a majority of outpatients. With modest additional effort, hospitals can develop UB-82 data for those relatively few patients for whom UB-82 is not the billing instrument, and at least some hospitals are doing that already. On the other hand, some hospitals have a billing process which does not require that a complete UB-82 data set be entered into the computer file for each patient. Because of its highly standardized contents and its function as a billing document, UB-82 should ultimately be a far more timely, accurate, and complete source of data than is currently available (such as the Annual Survey of Hospitals, which by comparison with UB-82 is very limited in detail and takes many months to receive, verify, and publish).

Finally, it should be noted that, while a great deal of prior study and experience underlies the implementation of UB-82 and while it holds great promise in various ways, there is yet no history of direct experience with UB-82 in Virginia or any other state. It is not yet certain that UB-82 will prove satisfactory to payers and hospitals for non-Medicare patients. Also, the accuracy of data, especially data on patient characteristics and patient conditions, reported on UB-82 has not been assessed. These considerations raise the possibility that the content of UB-82 and the procedures for preparing and submitting it may still experience some changes.

V. THE FEASIBILITY OF REQUIRING A UNIFORM ACCOUNTING SYSTEM OR FORM

Accounting systems serve three basic purposes. First, they provide routine information for use by the firm's managers in evaluating and controlling current operations. Second, they provide information to meet special management needs such as strategic planning and problem solving. Third, they provide information to external parties on the financial results of operations.

Because of a firm's need for managerial information, a fundamental objective of an accounting system is to accurately portray the firm's operations and financial position. To the extent that hospitals' operating environments differ, their methods of operation are likely to differ, and there will be some need for differing accounting records. For example, one hospital may assign the task of food distribution to its dietary staff, whereas another may assign that task to nursing service personnel. Financial calculations of the personnel costs for food services and for nursing services would therefore differ somewhat between these hospitals, even though the same totality of work is performed at each hospital.

Demands of external parties for access to information that is reasonably consistent and uniform among all firms has led, over the years, to numerous common practices within the accounting profession. Moreover, the accounting profession has established its own Accounting Principles Board that promulgates generally accepted accounting principles to be used throughout the profession. Within a given industry, further standardization has been achieved, such as through the recommendations of the American Hospital Association with respect to a standard chart of accounts. In addition, certain users of data and regulators of commerce, such as the Securities and Exchange Commission or the Health Care Financing Administration, have required specific accounting practices to be followed. These efforts have resulted in highly consistent accounting information at least within the more general categories of financial and operating data.

A decision to require greater uniformity in accounting should be based on the increased value of the resulting information compared with the increased cost of achieving greater uniformity. Aside from the cost of implementing a change in some hospitals' accounting systems, there is the cost associated with the tendency of an imposed accounting standard to influence a hospital's methods of operations. For example, if hospital costs were required to be combined with respect to food preparation and delivery of food, a hospital whose patient unit staff delivers food may be compelled to ease its data management burden by changing its personnel practices even though its particular needs may thereby be less efficiently served. At some point, external parties' demands for greater consistency in the finer details of accounting records across an industry will be viewed as inappropriately influencing a given firm's managerial prerogatives.

In Virginia, hospitals are required to report, in a standard format, to the Virginia Health Services Cost Review Commission information on their finances, volume of various services produced, use of personnel and other resources, labor costs, and other items of operational information. The Commission's accounting staff has asserted that the present reporting requirements result in a level of uniformity and consistency that could not be significantly improved without becoming impractical or overly burdensome. Some variations in accounting do occur, but these are regarded as legitimate variations reflecting the need to accurately portray differences among institutions in their operations. A similar position has also been expressed by the Director of Finance of the Virginia Hospital Association.

The statute governing the activities of the Cost Review Commission recognizes the need to accommodate some variations in accounting practices and states in part:

> The Commission, where appropriate, shall provide for modification, consistent with the purposes of this chapter, of reporting requirements to reflect correctly these differences among health care institutions and to avoid otherwise unduly burdensome costs in meeting the requirements of the uniform system of financial reporting. (§9-158C, Code of Virginia of 1950, as amended)

Summary and Conclusions Regarding a Uniform Hospital Accounting System

In short, the present standards for hospital accounting and financial reporting reflect a great deal of effort over the years by professional associations and government entities to bring about uniformity, comparability, and precision in accounting and financial reporting. Knowledgeable people do not seem to believe that current accounting and financial reporting standards used by Virginia hospitals are sufficiently varied as to seriously impede meaningful cost and other financial analysis of hospital operations.

Furthermore, a statewide and substantially uniform data base of hospital financial information for Virginia already exists under public control in the files of the Virginia Health Services Cost Review Commission and is used by the Commission to make detailed findings and recommendations concerning the efficiency of individual hospitals in producing their services and the reasonableness of their total charges and their charges for specific items of service. Although some of the information supplied by the hospitals is not to be publicly disclosed, the Commission's findings and recommendations are available to the public. These findings and recommendations permit interested members of the public to determine the relative efficiency of a hospital in producing various services and the reasonableness of charges for them.

However, the data and findings of the Cost Review Commission do not include information on patient characteristics, patient conditions, and the services provided in relation to those patient characteristics and conditions. The work of the Cost Review Commission therefore does not provide a basis for assessing the efficiency with which a given patient condition is treated in a given hospital, the reasonableness of total charges for that treatment, the need for that particular form of treatment, or the frequency of that condition and that form of treatment. Thus, the focus of this study is not on improving the quality, usefulness, or availability of hospital financial information but on assessing the need and feasibility of improving information on hospital utilization and the charges associated with the treatment of particular conditions.

VI. STATEWIDE HOSPITAL PATIENT DATA BASES IN SELECTED STATES

A number of states have established or are in the process of establishing statewide hospital patient data bases. Some of these efforts were initiated in the latter half of the 1970's as part of a series of demonstration grants from the U.S. Health Care Financing Administration. Such support is no longer available. The following summarizes the activities of selected states with respect to statewide hospital patient data bases, but is not a complete listing of all those states with such data bases in operation or under development.

Illinois. In 1984, the Illinois General Assembly established the Illinois Health Care Cost Containment Council, consisting of three health care provider representatives, three consumer representatives, two insurance company representatives, and three employer representatives. The Council was charged with a range of activities, but relative to the establishment of a statewide hospital patient data base, the Council was empowered to do the following:

--Require hospitals and third-party payers to adopt a uniform billing system based on UB-82, effective January 1, 1985.

--Require that hospitals provide to the Council specified data from UB-82, including patient characteristics, procedures and diagnoses, charges, identification of the attending physician, payer, etc.

--Prepare (through a contractor) standard quarterly reports showing health care cost trends in Illinois and, upon approval by the Council, prepare on a fee basis special studies and analyses requested by public agencies or private organizations.

Since the Illinois law is only a few months old, and use of UB-82 is not required until January 1, 1985, the Illinois data system has not yet begun operations. Information on the manner of operations, who will actually collect and process the data, and expected expenses and revenues was not available. It appears that the scope of data will be limited to the characteristics, services, and charges for hospital inpatients. Hospital outpatient services and associated charges will not be included. Separately billed physicians' services will also not be included, reflecting the fact that the hospital rather than the third-party payer is the source of the data.

Iowa. In 1983, the Iowa General Assembly established the Iowa Health Data Commission (IHDC), whose voting members are the three state commissioners of health, insurance, and social services. The IHDC was empowered to do the following:

--Require that all hospitals and third-party payers use a uniform hospital billing form designated by the commission (which was UB-82).

--Require that all third-party payers provide hospital inpatient and outpatient claims and corresponding physician claims data to the IHDC.

--Require that all hospitals use a uniform discharge abstract form designated by the IHDC.

--Require that common identification numbers be used for the hospital billing form and the hospital discharge abstract relating to a particular hospital visit.

--Require that a system of uniform physician identification numbers be developed for use on hospital discharge abstracts.

--Require that health insurers and health care service plans provide geographic area or other demographic data on their policyholders or subscribers.

The prescribed system is substantially in operation, and data are being received and processed. However, a uniform physician billing form is still being developed. The IHDC does not compensate the third-party payers for providing the required data, but reportedly most payers are not complaining. However, payers with only a small volume of business in Iowa are objecting to the burden of altering their data systems for a small number of cases. Since third-party payers are the data source for the Iowa system, patients having no third-party coverage are not included in the data system. This is thought to be about 10% of hospital patients.

Pursuant to agreement with the IHDC, a standard group of periodic reports are prepared and distributed at a nominal charge by the Health Policy Corporation of Iowa, which is the statewide Health Systems Agency for Iowa. Special reports are also available on a fee basis. The cost, including staff time, for processing the hospital discharge and billing data is contained within the budget of the Health Policy Corporation and is reported to be roughly $75,000-$100,000 per year.

Maine. In 1976, the Maine Health Information Center (MHIC) was formed as a non-profit corporation to serve as a statewide health data consortium, with a board of directors composed of representatives of the Maine Department of Human Services, Maine Hospital Association, Maine Medical Association, Blue Cross and Blue Shield of Maine, and four other health insurance and health services organizations.

From 1976 through 1980, activities of the MHIC were supported by grant funds from the U.S. Health Care Financing Administration and by a small, one-time contribution from each of the organizations represented on the board of directors. Since 1981, the MHIC has been operating largely on a fee-for-service basis by producing reports, technical assistance, and other services for hospitals, health insurers, regulators, and employers.

In 1978, the Maine legislature required that all hospitals report discharge data, as specified by the Maine Department of Human Services, to an independent data organization selected by the hospitals, which was the MHIC. The same legislation, the Health Facilities Information Disclosure Act, made all such information publicly available, provided that it did not directly or indirectly identify a physician or patient.

In 1982, the Maine legislature established the Health Care Finance Commission and charged it with the responsibility of collecting and analyzing hospital discharge data and hospital billing data. This function is performed for the Commission by the MHIC, although billing data is not yet being collected. Discharge data is received by MHIC from the Professional Activity Study (the nation's largest processor of hospital data on individual patient characteristics, conditions, and services received) for those hospitals which use that discharge abstracting service. Other hospitals report their discharge data directly to MHIC according to a specified format.

About one-fourth of the MHIC's workload and revenue are related to processing of data for the Maine Health Care Finance Commission. The MHIC also receives and processes data from every ambulance run in the state, and this activity constitutes about 30% of their workload. The rest of their workload relates to the production of special reports and analyses for various clients, using the hospital discharge data. Their annual budget is approximately $400,000, with a staff of eleven persons.

Maryland. In 1976, the Maryland Health Services Cost Review Commission (HSCRC) began to require general hospitals to submit specified data on discharged patients. These data include identification of attending and operating physicians, total charges and eight subcategories of charges, and standard discharge abstract data, such as patient characteristics, diagnoses, procedures, type of admission, type of discharge, etc. The Commission also receives hospital expense and workload data, generally similar to that contained in Medicare cost reports.

These data were processed by the Health Services Cost Review Commission and used for rate-setting purposes. In order to make the patient discharge and billing data more accessible to others, the HSCRC, with the assistance of the Baltimore City Professional Review Organization, established the Information Service Center (ISC) in 1982. The ISC received partial initial funding through a demonstration grant from the U.S. Health Care Financing Administration but now operates on a self-sustaining basis.

The ISC processes the patient discharge and billing data for the Health Services Cost Review Commission and prepares standard reports and customized reports for sale to hospitals, researchers, and others, both in Maryland and outside the state. In addition to the HSCRC data, the ISC maintains files of other data relevant to hospital services, such as national data on Medicare hospital discharges, discharge data from some other states, and various indexes and analytical routines relevant to the analysis of hospital operations.

Massachusetts. The Massachusetts Health Data Consortium is a voluntary association of state agencies, health insurers, and members of the health care provider and planning communities, established in 1978 to develop a statewide hospital discharge data base. For the first two years, approximately two-thirds of funds were provided by grants from the U.S. Health Care Financing Administration, with the remaining one-third coming from membership assessments. Federal support ended in

1982. Member assessments now provide about 30% of revenues, with about 15% coming from sponsorship of seminars and conferences and the remainder from sale of standard reports and from special research projects.

Data submission by hospitals to the Consortium has always been voluntary, but all acute-care hospitals in Massachusetts as well as certain hospitals in adjacent states have agreed to submit their discharge data. It should be noted, however, that the data received by the Consortium is identical to the data which Massachusetts hospitals are required to report to the state rate-setting commission.

The Consortium is now receiving billing data, in addition to discharge data, from all hospitals. UB-82 is not currently used as the source document for the billing data, but it will eventually become the source. The Consortium is also planning to expand its scope of data by collecting and processing data on non-institutional long-term care, ambulatory care, and mental health care. Most of these data will relate to activity outside Massachusetts.

The Consortium produces a more or less standard set of reports from each year's data, covering such subjects as geographic origin of patients, hospital market shares, length of stay, and rates of hospital utilization by diagnoses and surgical procedures per unit of population. In addition, the Consortium undertakes special research projects in collaboration with state agencies, health insurers, health planning agencies, provider associations, and hospitals. A growing part of the Consortium's activity and revenues relates to the presentation of seminars and conferences on the processing and analysis of hospital data. The Consortium's annual budget is approximately $410,000.

New York. In 1977, the New York State Department of Health established the Statewide Planning and Research Cooperative System (SPARCS). Until 1981, SPARCS was funded by a demonstration grant from the U.S. Health Care Financing Administration. Beginning in 1981, SPARCS has been funded through legislation that provided the New York Department of Health authority to assess each general hospital a fee not to exceed one-tenth of one percent of the hospital's total reported expenses. This revenue may be used only for support of SPARCS, and actual annual expenses of SPARCS have been less than one-half the maximum permissible fee.

SPARCS data cover only hospital inpatient stays and are derived from two sources: a uniform billing form and a common discharge data abstract, both of which were developed specifically for SPARCS. Most billing data are provided to SPARCS by third-party payers (or their financial intermediaries) to take advantage of corrections and data consolidation occurring during the payment review process. Discharge abstract data and some billing data are provided on computer tapes directly by the hospitals.

From these data, SPARCS prepares a set of standard reports, which are available to the general public at a nominal price, and on a fee basis prepares various special reports for use by the hospital industry and others.

Summary and Conclusions Regarding Selected Hospital Patient Data Bases

A number of states have established statewide hospital patient data bases. Some of these were initiated under demonstration grants from the U.S. Health Care Financing Administration and have been in operation for several years. Other states have only recently established such data bases and did so without Federal financial assistance, which is no longer available.

Most but not all of these data bases include both discharge abstract data (patient characteristics, diagnoses, procedures, discharge status, payer, etc.) and billing data (charges for specific items of service, grouped into categories such as nursing service, radiology, etc.). The older data bases generally began with discharge abstract data only and have recently added billing data, when a uniform billing document was established. None of the data bases reviewed here is relying solely on a billing document for data, even though UB-82 provides nearly all of the data contained in a discharge abstract. There is some concern that, especially for non-Medicare patients, patient condition information on billing documents will be less accurate than on discharge abstracts. This may particularly occur when hospitals have billing documents printed prior to entry of all medical record data into the computer file, necessitating individual follow-up by the finance staff and manual entry of data on the bill.

Most statewide data bases receive their data from the hospitals, which permits coverage of all hospital patients, but at least one data base receives its data from third-party payers, thus permitting coverage only of those patients covered by third-party payers (about 90% of hospital inpatients, but a smaller proportion of hospital outpatients). Receipt of data from third-party payers makes it possible to also obtain billing data for physicians' services (e.g., surgery, anesthesiology, radiology) associated with hospital stays, rather than just hospital billing data. However, there is no nationally recognized uniform bill or reporting form for physicians' services, and data formats undoubtedly vary among payers.

All of the agencies operating data bases reviewed here prepare a series of standard reports, sometimes under contract with the state's cost review commission, and also prepare special reports and studies on a fee basis for hospitals, state agencies, consultants, and researchers. In most cases, these special reports and studies are an important source of revenue.

Most of the statewide data bases reviewed here are operated by private, not-for-profit corporations. Two of these were organized as consortia of parties involved in the health care field. However, only one of the data bases is dependent on voluntary reporting of information. In the other cases, reporting is required by state law. Based on the limited information obtained, annual expenses of these data bases ranged from about $100,000 to $500,000 and greater, depending on the nature and volume of input data and the scope of services provided.

VII. CONFIDENTIALITY

Proponents and operators of health care data systems universally recognize that information which identifies or permits identification of individual patients must not be publicly disclosed. However, methods and procedures for preventing identification of individuals differ considerably, as do interpretations of what information would permit identification of individuals. Most would agree that street address and social security number permit identification of individuals and should not be part of publicly accessible data systems. There would be less agreement on items such as birthdates.

Mechanisms for safeguarding patient confidentiality can be applied either at the data source or by the data processing organization. That is, patient-identifying information (such as name, address, social security number) may be removed when data are supplied by the provider to the data processing organization, or may be removed by the data processing organization when data are made available for public use. A closely related question is whether public users of the data would be allowed to access data at the level of the individual patient record (with patient-identifying information removed) or would only be allowed to have statistical summaries prepared by the data processing organization.

If the public users of the data are limited to statistical summaries, identification of individual patients is effectively impossible. However, prohibiting public access to the data at the level of the individual patient records (with patient-identifying information removed) will preclude direct, interactive communication with the data base, will restrict the researcher's flexibility in conducting studies, may reduce his ability to find meaningful patterns and relationships in the data, and will increase the time required to obtain information because of the need for the data base staff to prepare the statistical summaries.

Most of the states with statewide hospital patient data bases have found it desirable to make some statutory reference to required confidentiality of patient-identified data. Most states have specified that raw data supplied to the data base is not public information subject to disclosure under freedom of information acts. This was done in Illinois, even though there was also a requirement that data supplied to the data base have no unique patient identifiers. Other systems do contain unique patient identifiers, most often the medical record number, although such information is undoubtedly not publicly available. The Maryland data base receives medical record numbers as part of its data and then creates a file for public use with the medical record number removed.

Removal of any unique patient identifier prior to providing information to the data base would make it impossible for even state health officials to use the data base as a point of departure for certain kinds of detailed studies of hospital utilization and patient outcome over time, such as readmissions for the same condition, the tendency of one condition to be associated with another, or relative changes in health status.

With respect to confidentiality of medical records, existing law in Virginia provides the following:

> §32.1-40. Authority of Commissioner to examine medical records.--Every practitioner of the healing arts and every person in charge of any medical care facility shall permit the Commissioner or his designee to examine and review any medical records which he has in his possession or to which he has access upon request of the Commissioner or his designee in the course of investigation, research or studies of diseases or deaths of public health importance. No such practitioner or person shall be liable in any action at law for permitting such examination and review.
>
> §32.1-41. Anonymity of patients and practitioners to be preserved in use of medical records.--The Commissioner or his designee shall preserve the anonymity of each patient and practitioner of the healing arts whose records are examined pursuant to §32.1-40 except that the Commissioner, in his sole discretion, may divulge the identity of such patients and practitioners if pertinent to an investigation, research or study. Any person to whom such identities are divulged shall preserve their anonymity.

* * *

> §32.1-71. Confidential nature of information supplied; publication.--The Commissioner and all persons to whom information is submitted in accordance with §32.1-70 [voluntary statewide cancer registry] shall keep such information confidential. No publication of any such information shall be made except in the form of statistical or other studies which do not indentify individual cases.

In addition to issues regarding patient confidentiality, there are questions regarding confidentiality of providers, both institutions and physicians. These two groups should be considered separately. While there may be some kinds of data or types of statistical summaries for which there should be institutional confidentiality (or because an assurance of institutional confidentiality is necessary to obtain full cooperation of institutions), as a general rule institutions must be identified in the data. Otherwise, a principal reason for creating the data base--to examine differences among institutions in patterns of utilization and charges--could not be addressed.

Of the six statewide hospital patient data bases reviewed in the previous section of this study, only the New York system (SPARCS) has general provisions for institutional confidentiality. These provisions in New York do not prohibit the identification of institutions in data releases or statistical summaries, but do require that institutional identification be specifically approved when special reports of data or statistical summaries are provided to requestors other than the Department of Health, U. S. Health Care Financing Administration, National Center for Health Statistics, and the New York Health Systems Agencies. Standard reports published by SPARCS do identify individual hospitals.

Issues of confidentiality with respect to identification of physicians are more complex. Identification of both the attending physician and other physician or operating physician is part of the National Center for Health Statistics' "minimum data set" for hospital patients and appears to be part of each of the six statewide hospital patient data bases reviewed earlier. In most if not all cases, these identifiers are numeric. The data processing organization may or may not be able to match names with these physician identifiers.

UB-82 provides opportunity for identification of the attending physician and the physician performing the principle procedure. In Virginia, all payers require identification of the attending physician, but only Medicare requires identification of other physicians. For most payers, a numeric identifier is used, but for commercial insurers and CHAMPUS, physician name is required. Thus, a data base using UB-82 as the input record would directly identify the attending physician for approximately 25% of patients, unless this item were specified to be removed from the data either at the data source or by the data processing organization before any outside release of data.

As the next section of this paper describes, for many specific patient conditions, there are important differences among physicians in the selection and extent of hospital services used in treating patients with the same condition. Examination and alteration of some of these differences in hospital utilization hold promise for both improving the quality of care and reducing the growth rate of health care expenditures.

In view of this, it is desirable to maintain physician identifiers within a hospital patient data base. However, it may be desirable to convert physician names (in those cases where names are submitted) to a numeric identifier. Even then, the extent to which the data base organization should release data showing physician identifiers is a question for further exploration. In some cases, the combination of physician identifier, hospital identifier, and patient conditions or operative procedures would permit knowledgeable persons outside the hospital to deduce who the physician is.

Summary and Conclusions Regarding Confidentiality of Data

In summary, confidentiality of information in a hospital patient data base must be viewed in terms of patient identification, physician identification, and institutional identification. There is universal agreement that data released by the data base organization must neither directly identify individual patients nor indirectly permit identification of individual patients. There are, however, differences among existing data base systems in the arrangements for protecting patient confidentiality. Two key questions are whether all patient identifiers are removed from the data before it is supplied to the data processing organization and whether outside users of the data base can have direct access to individual case records (with patient identifiers removed) or can only have statistical tabulations prepared by the data base organization.

Issues of confidentiality with respect to physicians and institutions are quite different than with respect to patients. A principal reason for creating a hospital patient data base is to examine variations among providers, especially among hospitals, in patterns of health services utilization and charges for these services. Indeed, most of the usefulness of a hospital patient data base would be lost if hospitals were not identified in publicly accessible data. However, release of physician-specific data and the manner of identifying physicians in such data are questions which seem to require further exploration.

Most states with statewide hospital patient data bases have found it desirable to enact some statutory provisions regarding reporting of information to the data base organization and the duties and powers of the data base organization with respect to further processing and release of such data. Existing Virginia law regarding confidentiality of medical records was not developed to address and does not appear to provide adequate guidance on issues of confidentiality surrounding the establishment and use of a statewide hospital patient data base.

In general, law and procedures regarding confidentiality of information in a hospital patient data base must be developed so as to recognize the absolute right of patient privacy and the legitimate concerns of physicians and institutions, while still enabling data to be provided in a manner which is useful, responsive, and efficient for data users. Different procedures might be developed with respect to different users of the data, with certain authorized users such as state agencies or professional associations being permitted more specific data than that available to the general public.

VIII. THE NEED FOR A STATEWIDE HOSPITAL PATIENT DATA BASE

There is a perception widely shared by knowledgeable observers that much less is known about the functioning and outputs or results of the American health care system than should be known as a basis for both governmental and private decision-making. Most states which have legislatively established a statewide hospital patient data base have expressed this view in the enabling legislation or the reports which preceded the legislation. For example, the legislation establishing the Iowa Health Data Commission stated:

> To foster the cooperation of the separate industry forces [within the health care field], there is a need to compile and disseminate accurate and current data, including but not limited to price and utilization data, to meet the needs of the people of Iowa and improve the appropriate usage of health care services. It is the intent of the general assembly to require the information necessary for a review and comparison of cost, utilization, and quality of health services. The information is to be compiled by a statewide clearinghouse and made available to interested persons to improve the decision-making processes regarding the purchase price and use of appropriate health care services. (House File 196, Seventieth General Assembly (1983), State of Iowa, p. 1)

Although concern for health care expenditures is by no means the only reason for seeking improved knowledge of the functioning and outputs of the health care system, it is a principal reason. The size of health care expenditures is the product of both the unit price of health care services and the volume of health care services used. As reflected in the passage from the Iowa legislation, both price and utilization information are necessary to understand the forces affecting health care expenditures.

Relative to other fields of economic activity, information on the prices of health care services is peculiarly lacking. This is both a result of and a cause of the relative absence of market forces in health care. To the extent that a competitive strategy is invoked as a means of controlling health care expenditures, price information must be available and must be used to guide purchase decisions, if a competitive strategy is to have any effect. As expressed by the Washington Business Group on Health in a May 1984 letter to Congressman Ron Wyden, "For any market to work, there is one essential ingredient: comparative information about the competing sellers."

This letter was written in support of Congressman Wyden's proposed legislation to establish a program within the National Center for Health Statistics to promote the development of provider-specific utilization, price, service, and quality comparative information. The Washington Business Group on Health further stated, ". . . we support this amendment, as authored by Congressman Ron Wyden, because we have identified the access to just such information as the single most important factor in successful cost management."

Similar views are held by the Health Insurance Association of America (HIAA), the trade association of commercial insurers in the health field. In a recent letter to the Virginia Department of Health, Deborah Ferraro, Associate Director of Research for HIAA commented as follows:

> The need for, and availability of, credible and uniform hospital financial and utilization data is recognized as a key to any effective movement in the area of hospital payment reform. Without data depicting the existing financial and utilization picture in a state, there is no baseline or benchmark against which to measure the impact of system changes. Indeed, it becomes extremely difficult to target problem areas or to identify appropriate cost containment strategies, let alone evaluate the impact of those strategies.
>
> This is true whether the debate centers on mandated or voluntary cost containment systems, the value of benefit plan modifications, or the cost/benefit relationship of alternative delivery systems or utilization review programs. And it is for these reasons that the HIAA supports the concept of statewide hospital data bases which include financial and utilization data for <u>all</u> discharges, regardless of payer.
> (HIAA letter, November 2, 1984, to Division of Health Planning, Virginia Department of Health)

As reflected in the preceding quotations, price information is not the only needed piece of health care information. Utilization information (how many services, of what kinds, for what kinds of patients, and with what results) is perhaps even more important for understanding and altering health care expenditures. There is growing recognition that price inflation, i.e., increases in the prices of specific basic units of health care services, accounts for only about one-half of the growth rate of health care expenditures. The balance of the increase in health care expenditures results from the growing volume and the changing technology and organization of health care services used. Understanding and managing this aspect of health care expenditures requires utilization information.

Particularly in the last several years, there has also developed a growing realization that the volume and nature of health care services received by some groups of Americans are much different from the volume and nature of health care services received by other groups of Americans of similar economic and health status. HMOs have illustrated this by caring for enrollees while using considerably less hospital services than are used by non-HMO populations in comparable circumstances.

Quite recently there has emerged a body of research showing that hospital use rates differ dramatically among medical service areas in the same state and that these differences are not accounted for by the age or apparent health conditions of the population. Dr. John E. Wennberg of the Dartmouth Medical School has been a leader in this area of research.

His research has by necessity been conducted in states with statewide hospital patient data bases, including Massachussetts, Rhode Island, Maine, Vermont, and Iowa (three of whose data bases are described elsewhere in this report).

Dr. Wennberg's research showed that for many common surgical procedures (such as tonsillectomy and adenoidectomy, hysterectomy, and prostatectomy) there are large variations among medical service areas in the rate of hospitalization. Tonsillectomy rates varied by a factor of about sixfold, while the rates of hysterectomy and prostatectomy varied by a factor of about fourfold. These variations were similar across different states and similar for different years. Large variations were also found for many non-surgical causes of hospital admission, such as chronic lung disorders, hypertension, and atherosclerosis. On the other hand, much smaller variations in admission rates were found for some surgical and non-surgical causes of admission, such as hernia repair, hip repair (not including joint replacement), acute myocardial infarction, and gastrointestinal hemorrhage.

Dr. Wennberg observes that those conditions and procedures showing wide variation in hospitalization rates are those for which there is not a well-established professional consensus on the value of specific treatments and the need for hospitalization. Dr. Wennberg states that these conditions often relate to the aging process and are conditions for which there is an absence of well-designed clinical trials of alternative forms of treatment and consequently a poor understanding within the medical profession of the consequences of various forms of treatment or of no treatment. The lack of knowledge about measurable differences in health status associated with different treatment approaches results in a lack of well-accepted and relatively precise norms of care for these conditions and promotes latitude in the manner and place of treatment physicians choose.

This latitude in selecting an "acceptable" manner and place of treatment results in what Dr. Wennberg calls the "practice style factor" in hospital utilization. Dr. Wennberg comments about this factor as follows:

> These subjective considerations, which I call collectively the "practice style factor", can play a decisive role in determining what specific services are provided a given patient as well as whether treatment occurs in the ambulatory or the inpatient setting. As a consequence, this style factor has profound implications for the patient and the payer of care.
>
> . . . The practice style that favors inpatient treatment greatly affects the demand for hospital care and has serious implications for efforts to constrain costs.
>
> These implications become clear when one recognizes that, within a region or state, different opinions held by physicians concerning the need for hospitalization--as

> measured by per capita admission rates--are the most important determinant of variations in per capita costs for the treatment of specific diseases. The different opinions of doctors over the need to hospitalize are much more influential in established total costs than difference in cost per case or the length of an inpatient stay. (Health Affairs, Summer 1984, p.7)

Dr. Wennberg's research shows not only that the practice style factor exists and is very important in determining an area's total health care costs but also that this practice style factor can be altered by the organized feedback to physicians of information on comparative utilization. Dr. Wennberg states:

> The most direct evidence for the importance of practice styles in influencing utilization rates comes from natural experiments in which practice styles change following the feedback of information to physicians on the rates in their own and neighboring market areas. Changes have been documented for hysterectomy rates in Saskatchewan, Canada, and Maine; for tonsillectomy rates in Vermont and Maine; and for lens extractions in Norway. The evidence indicates that the changes occurred primarily because physicians took actions to modify their clinical policies. (Health Affairs, Summer 1984, p. 10)

Based on his research, Dr. Wennberg offers a plan for reducing those hospital use rates which suggest unnecessary use and which seem to result from the "practice style factor" rather than from scientific knowledge and the values, need, or wants of patients. Dr. Wennberg explains his ideas as follows:

> My plan has three parts. The first calls for a closer monitoring of medical practice in local hospital markets, using epidemiologic techniques to obtain population-based measures of resource allocation, service use, and outcomes of health care. This information should be made available on a continuous basis to interested parties. Second, I recommend that the medical community and qualified researchers address unanswered questions concerning the effectiveness of many common therapeutic interventions. The overriding questions in this regard are whether such interventions have beneficial outcomes and are relatively safe.
>
> Third, I recommend that the medical community make greater efforts to deal with the cost-containment problem by reducing the use of hospitals for marginally indicated conditions, as may be determined from the monitoring of medical practice called for above. The challenge would be to translate these reductions in inpatient demand into reductions in the capacity of the hospital industry as a step toward moderating the growth of per capita health costs.

> In advancing this plan, I draw on my experience with monitoring the perfomance of the medical care systems in New England over the past decade and, more recently, in Iowa. In these areas, I have worked closely with doctors and state medical societies to feed back to physicians the information I found. The positive physician response to this information suggests that doctors and their professional organizations in other areas can be expected to assume leadership roles in projects that deal with the cost and medical outcome implications of the variation phenomenon. But the feasibility of the plan will depend ultimately upon broad-based support from the private and public sector, including government.
> (Health Affairs, Summer 1984, p. 8)

Of course, the first and essential step in this process is to develop the capacity to monitor in a specific and precise way the use of hospital services in various hospital service areas. This requires information on all hospital patients, showing in particular their specific diagnoses and operative procedures and their place of residence.

The usefulness of health services utilization information extends well beyond the question of health care expenditures to encompass questions of access to health care, quality and effectiveness of health care, and the health status of the population. In her recent letter to the Department of Health, the Associate Director of Research for the Health Insurance Association of America commented as follows:

> Although cost containment is a primary focus, there are many other issues a comprehensive statewide data base could help address. These include issues of concern to state health departments, such as morbidity levels and health status of the population, access to care and availability of resources.
>
> Employers, individually or through coalitions, could use the data base to evaluate the health status of their employees in relation to other population groups, and identify areas for health promotion efforts. They could also use the data to determine how the experience of their employees compares with that of other purchasers of care, or to evaluate the relationship between benefit modifications and utilization rates and/or costs.
> (HIAA letter, November 2, 1984, to Divison of Health Planning, Virginia Department of Health)

Commenting on Dr. Wennberg's work, Dr. Philip Caper, a physician and research fellow at Harvard University's Kennedy School of Government offered the following thoughts:

> There is one more important lesson to be learned from this work. It demonstrates the usefulness of routinely collected

> hospital discharge and claims data in helping us to better understand the workings of the medical care system and the importance of public accessibility to such data for research and policy development purposes. The use of epidemiologic techniques to compare medical practices among geographic areas clearly presents great opportunities for learning more about patterns of medical care, and does so in a way that is very useful for policy development.
>
> * * *
>
> Opportunities for such research exist because of the skill of Wennberg and others in making use of data to compare differences among hospital service areas which exist at any given point in time--so called cross-sectional analysis. But even greater opportunities exist if the results of such differences are followed over time through a technique called longitudinal analysis. Hospital claims data can help us investigate questions such as whether the women of Lewiston or Rockland, where per capita hysterectomy rates vary by more than twofold, are better off with respect to uterine disease and its sequelae. Analysis over time could help us find out which physician practices have the most desirable effects on patients. We cannot automatically assume that either high- or low-use practice styles are correct.
> (Health Affairs, Summer 1984, pp. 117-118)

Such views are not limited to academicians. The Washington Business Group on Health, whose member firms are the purchasers of health insurance for 50 million employees, retirees, and dependents, has stated the following view about the usefulness of studying hospital patient data and making the findings publicly available in order to influence patterns of medical care and improve quality:

> For some procedures, quality measures exist. For many, such measures have yet to be developed. One of the reasons we support the Wyden amendment [to stimulate the development of health care data bases] is because we feel it will stimulate increased investment in outcome validated quality measures and the quality of the data itself.
>
> Quality is difficult to measure. However, if we cannot measure it, the future decisions about resource allocation will have to ignore it. This is not desirable. We do know that many of yesterday's practice patterns no longer represent either efficiency or quality. We do know that it takes many years for improvements to become norms and we do know about the indefensible variations in medical practice. We do know that excess days in the hospital or excess tests are, by definition, poor quality.
> (Attachment to WBGH letter, dated May 8, 1984, to Congressman Ron Wyden)

Consolidated Health Care Data Base Study
Virginia Department of Health
January 1985

The need for a statewide hospital patient data base in Virginia becomes quite evident to persons who are attempting to understand the incidence of major disease and injury in Virginia in order to develop or evaluate programs designed to deal with those conditions. A clear example of this problem is illustrated by the following quotation from a report of the Virginia Head Injury Foundation, which undertook a study of the extent of head injury in Virginia, under a grant from the Virginia Department of Rehabilitative Services:

> Since some hospital administrators and computer vendors chose not to participate in this study or available computer data tapes were not usable, a total of 40 . . . hospitals with computer based medical records were available for this survey. Approximately 62% of Virginia hospitals have some form of computer based medical record capability and not all of these were operational for the years 1981 and 1982. The remaining participating hospitals which manually retrieved selected data raised the total number of participating hospitals to 72 or 67% of the 107 hospitals in Virginia.
>
> * * *
>
> In an attempt to provide some information on the geographical distribution of head injury in Virginia, the first three digits of the zip code of the head injured patient's residence were tabulated and sorted according to the 15 postal sectional facilities areas of Virginia that had been established by the U. S. Postal Service.
>
> This research strategy was not successful since these data were available only from those hospitals that had computer based medical records and where computer vendors chose to cooperate in this survey. The zip code data that were available would only reflect the geographical distribution of the head injured served by the computer vendors since the hospitals served by particular vendors were not randomly selected hospitals.
>
> In our survey to evaluate the number of Virginia residents treated for head injury in Maryland it was possible, at the same time, to retrieve data on the statewide incidence of head injury in Maryland, as defined by the nineteen ICD-9-CM codes on head injury.
>
> * * *
>
> It is emphasized that given the centralized medical data registry in Maryland, it was possible to retrieve this data for four years and replicate the Virginia study with respect to other variables for Maryland for a total cost of $1,190. The Maryland data represents complete data for all Maryland hospitals and was obtained within approximately 30 days of the original request. A further point of emphasis is that it

was not necessary to obtain authorization for release of aggregate statistical health data from any hospital administrator nor contend with the vagaries of cooperation or noncooperation of the many "computer vendors" that manage statistical data of medical record information.

One of the most significant, if not the most significant, lesson that has been learned from this survey of head injury in Virginia is that the Commonwealth of Virginia is hostage to the hospital administrators and their computer vendors for access to vital public health data that is essential for state health planning, financing and administration. Given the disarray, lack of standardization and absence of a central registry of medical/social health data in Virginia, it is not possible for any Virginia state official, public health officer or health investigator to obtain comprehensive vital information on public health issues without the expenditure of extraordinary time, money and other resources which efforts, in the final analysis, result in only incomplete data.

One of the most urgent tasks and priorities for the Commonwealth of Virginia must be the implementation of a comprehensive and centralized medical/social health registry that is comparable to the Maryland centralized data health registry system.
(Head Injury in Virginia, Virginia Head Injury Foundation, Inc., March 1984, pp. 3, 25-27)

IX. SUMMARY AND RECOMMENDATIONS

The health care system in the United States and in Virginia appears to be undergoing comparatively rapid and profound changes in organization, behavior of providers, and patterns of utilization. A principal factor underlying these changes is the introduction by private or government insurance programs of new economic incentives, which are designed to stimulate patients and providers to seek health services with low unit costs of production and to adopt patterns of treatment which minimize the volume of services used and which substitute low-cost forms of service for high-cost forms of service where possible.

In order for insurers to structure economic incentives in the most desirable fashion, in order for patients and providers to respond to these incentives in the most intelligent fashion, and in order for government to monitor the effect of these new incentives on the general well-being of the population and on government programs, it is necessary to have information on the functioning of the health care system which is comprehensive, well-organized, accurate, timely, and sufficiently detailed.

Recognizing the increased need for information about the health care system, created by current changes in health care, and recognizing that there are significant deficiencies in existing health care data, the Joint Subcommittee Studying the Feasibility of Preserving a Regional Health Planning Mechanism in the Commonwealth introduced House Joint Resolution 27, which called for a study of the feasibility of establishing a consolidated health care data base for Virginia.

The health care system comprises a very large number of individual practitioners and facilities, which can be classified into several different types of providers (e.g., physicians' office, hospital, etc.) and which provide numerous types of services in several different environments or settings (ambulatory, home, mobile, and inpatient or institutional).

For each provider of health care services, five basic categories of data can exist: data on facilities (buildings and equipment), data on personnel, data on patients (personal characteristics and health conditions), volume and types of services rendered to patients, and finances (revenues, expenses, and charges). When one considers the number of providers, the different types of providers and settings of care, and the number and types of health care services provided, it becomes evident that a truly consolidated health care data base for a state is almost beyond imagination, certainly beyond feasibility, due to the volume of data, the number of sources involved, and the lack of uniformity with which data are recorded and facts are classified. Furthermore, much of this information would have little significance for general public use or governmental decision-making.

The practical question then is where effort can best be directed to improve the availability and usefulness of health care data. Hospital services and physicians' services provided in hospitals account for more than half of the nation's health care expenditures. Furthermore, a great deal of information, which is relatively accurate and relatively standardized in structure and content, already exists about hospital resources, hospital patients, services provided to hospital patients, and hospital finances. Some of these data are appropriately consolidated and available for public use, but a key component of hospital data is not adequately consolidated and available for public use. This missing piece is information which describes patients and their conditions and links these data with services received and charges for those services.

Until quite recently, most hospitals (in Virginia and the rest of the nation) have not had data systems which linked patient characteristics with services received and charges incurred. However, Virginia and most other states have recently established a uniform billing document or set of data, known as UB-82, which must be used for nearly all hospital inpatients and a majority of emergency room and other outpatients. This results in every hospital having to create for nearly every patient a single record which consolidates the significant information relating to patient characteristics and conditions, operative procedures and other services received by the patient, and charges levied by the hospital for those services. The implementation of UB-82 thus establishes a uniform and essentially universal data set which could serve as the principal or sole source of input data for a statewide hospital patient data base.

Such a data base would not provide data on hospital expenses, unless this were obtained from some other source, and in fact a series of assumptions and mathematical computations would have to be made to relate service and charge data to actual expenses. Furthermore, data on the total expenses of individual hospitals and on their expenses for producing specific types of services are already collected and analyzed by the Virginia Health Services Cost Review Commission, based on a specified set of forms and procedures for reporting and analyzing the data. A more uniform accounting or financial reporting system for hospitals does not appear to be practical or necessary or particularly relevant to the principal data need identified in this study.

Statewide hospital patient data bases have been established or are being established in a number of states. Six such data bases (Iowa, Illinois, Maine, Maryland, Massachusetts, and New York) are described in this study. Some of these have been established for several years, and most do not now plan to rely on UB-82 as the sole source of data. However, several of these data bases include billing data from existing sources and plan to incorporate UB-82 into their data bases as UB-82 use is established in their state.

Most of the statewide data bases reviewed in this study rely on the hospitals to provide the data, but one state relies on third-party payers. This approach reduces the number of data sources to be dealt with and makes it possible to obtain data on physician charges for services performed in the hospital, which are not part of the hospital bill. On the other hand, relying only on third-party payers to provide data results in the exclusion of those patients who do not have any form of insurance.

All of the organizations operating statewide hospital patient data bases reviewed in this study prepare a series of standard reports on patterns of hospital utilization, sometimes under contract with the state's cost review commission, and sometimes for general distribution and sale. They also prepare special reports and studies on a fee basis for individual hospitals, state agencies, consultants, and researchers. These special studies are frequently an important source of operating revenue for the data base organization.

Most of the six statewide data bases reviewed in this study are operated by private, not-for-profit corporations. Two were organized as consortia of various parties involved in the health care field. However, only one of these data bases depends on voluntary reporting of data, and most of the data which it receives is required to be reported to a state agency anyhow. Annual expenses of these data base organizations are reported to range from about $100,000 to about $500,000, depending on the nature and volume of input data and the scope of services provided.

Maintaining appropriate confidentiality of information in a hospital patient data base is an important concern. While there is universal agreement that data must not be released to data users in a manner which identifies individual patients or indirectly permits their identification, there are important differences among existing data base organizations in the procedures for accomplishing this.

Issues of confidentiality with respect to physicians and institutions are quite different than with respect to patients, since a principal reason for developing a hospital patient data base is to identify variations among providers--especially among hospitals--in patterns of utilization of health services and charges for these services. Identification of physicians should probably be handled differently from identification of hospitals.

Existing Virginia law was not designed to address and does not appear to address adequately the issues of confidentiality surrounding development and use of a statewide hospital patient data base. In general, specific standards and procedures for providing and handling information in a statewide hospital patient data base must be developed so as to recognize the absolute right of patient privacy and the legitimate concerns of physicians and institutions, while still enabling data to be provided in a manner which is useful, responsive, and efficient for data users. Different procedures might be developed with respect to different users of the data, with certain users such as state agencies or professional associations being permitted more specific data than that available to the general public.

Need for information is inherently subjective and conditional. It depends on what one is trying to accomplish and how one thinks that might be accomplished. The need for improved data on the provision of hospital services, which is asserted in this study, is based on the view that individual citizens, private organizations, and government have legitimate interests and concerns relative to reducing the growth of health care expenditures, while maintaining or enhancing the quality and accessibility of care and patient satisfaction with care, during a period of apparently significant change in the organization and use of health care services.

This paper presents views from various sources, including state legislatures, a national association of major employers, the industry association of commercial health insurers, and health care researchers, showing that a hospital patient data base can contribute to improved public and private decisions about the provision and use of health services, so as to reduce the growth of expenditures while maintaining or increasing quality, accessibility, and patient satisfaction with care. These views are shared by the health system planning agencies in Virginia.

An important, though not exclusive, reason for interest in statewide hospital patient data bases is the view that an expenditure-control strategy based on the introduction of market forces or economic incentives into the health care field will not be effective unless such a strategy is designed with an accurate understanding of the current behavior of health care providers and patients and unless providers and patients have useful, accurate, and timely information to guide their responses to the new economic incentives.

It is increasingly clear that reducing the growth of health care expenditures is not simply a matter of reducing inflation in the prices of individual units of health services but is as much or more a matter of reducing growth in the volume of services consumed and substituting lower-cost forms of treatment for higher-cost treatment where possible. This study reports on a growing body of research which demonstrates that there are wide variations among communities in the volume and nature of health care services consumed, even after differences in the communities' demographic profiles are taken into account.

These differences among similar communities in overall health care expenditures seem to result primarily from differences among those communities in the extent and type of hospital services which physicians choose to use in treating patients with conditions for which there is no firmly settled opinion among physicians as to the most appropriate course of treatment. Patient conditions of this type are apparently quite numerous and include conditions which are non-surgical as well as conditions frequently treated surgically.

For these conditions, one health care service area may have rates of surgery or hospital admission which are several times the rate of another area. There is reason to believe that the development of information displaying these differences among communities in hospital usage for given conditions can be fed back to the local provider community and bring about some modification of practice patterns associated with unusually high rates of surgery or hospital admission.

Other statements presented in this study show the usefulness of a statewide hospital patient data base for identifying and examining a variety of health care and health status issues and the extreme difficulty of effectively addressing those issues in states, like Virginia, where comprehensive data on hospital patients and services are not available.

It is recommended that the Commonwealth move forward with the establishment of a statewide hospital patient data base and that the General Assembly adopt a resolution directing the following actions:

--That the staff of the Department of Health, in conjunction with other state agencies (Virginia Health Services Cost Review Commission, Department of Information Technology) proceed with more detailed investigation of the principal issues identified here and of the operation of such data bases in other states. This investigation should include detailed examination of organizational types, legal bases for existence, methods of governance, scope of services, staffing, revenues and expenses, arrangements for the provision of data, and standards and procedures relating to confidentiality of data.

--That State staff have detailed discussions with the Virginia Hospital Association, the Medical Society of Virginia, health insurers, and employer groups concerning their views about a statewide hospital patient data base, including structure and governance of the data base organization, sources of revenue, source, form and any desired restrictions on input data, types of standard reports, and arrangements and restrictions relative to special reports.

--That staff prepare a report, based on the foregoing investigation, setting forth detailed recommendations, including estimates of revenues and expenses, concerning the establishment of a statewide hospital patient data base.

It is further recommended that the General Assembly appropriate $15,000 to carry out the investigation and prepare the report described above.

LD4059574

HOUSE JOINT RESOLUTION NO. 27

Offered January 17, 1984

Requesting the Departments of Health, Management Analysis and Systems Development, and Planning and Budget to study the feasibility of establishing a Consolidated Health Care Data Base for Virginia.

Patrons—Stambaugh, Marshall, and Stafford; Senator: Holland, E. M.

Referred to the Committee on Health, Welfare and Institutions

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WHEREAS, accurate data provide the fundamental basis for informed government and private decisions; and

WHEREAS, the health care industry is evolving rapidly at this time as the result of the revised reimbursement systems; and

WHEREAS, viable data on services and facilities are crucial to the understanding of these changes; and

WHEREAS, the federal efforts to collect and disseminate data have been and will apparently continue to be reduced; and

WHEREAS, the Medicare Costs Reports will be eliminated in 1985, thereby creating another gap in the data available to the Commonwealth; and

WHEREAS, although the cost containment efforts of the Virginia Medicaid Program will not be hampered initially by the elimination of the Medicare Cost Reports, future efforts to control the costs of Medicaid and other health care programs in Virginia may suffer because of lack of data; and

WHEREAS, the information surveys required of health care facilities by various government and private organizations are time consuming and expensive to complete; and

WHEREAS, a uniform data collection system would provide relief to Virginia's health care industry from the duplicative and fragmentary efforts presently required for cost review, licensure, certificate of need and certification for payment; and

WHEREAS, the implementation of a uniform billing form will take place in the near future; and

WHEREAS, the development of a uniform accounting system would provide insight into the accounting practices of various institutions; and

WHEREAS, collection and dissemination of critical aggregate health care data would benefit the Commonwealth and its business and industry community; and

WHEREAS, precise data on the cost and utilization of health care services are essential to maintain the quality of care available to Virginians and to prevent health care from becoming unaffordable; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Departments of Health, Management Analysis and Systems Development, and Planning and Budget are hereby requested to study the feasibility of establishing a Consolidated Health Care Data Base for Virginia.

During the course of this study, the following issues shall be examined:

1. The feasibility of requiring a uniform accounting system or form;

2. The means to protect the privacy of the institutions and individuals;
3. The adequacy of the information contained on U.B. 82; and
4. The cost and efficiency of establishing such a data base.

The Secretary of Administration and Finance shall be responsible for coordinating this study. In conducting this study, the responsible agencies shall confer with the Virginia Health Services Cost Review Commission, insurance companies and other organizations with established medical data base systems and seek input from representatives of the health care industry. The work of this study shall be completed in time to report the findings to the Governor and the General Assembly by December of 1984.

Official Use By Clerks

Agreed to By The House of Delegates		**Agreed to By The Senate**	
without amendment	☐	without amendment	☐
with amendment	☐	with amendment	☐
substitute	☐	substitute	☐
substitute w/amdt	☐	substitute w/amdt	☐
Date: ____________		Date: ____________	
Clerk of the House of Delegates		Clerk of the Senate	

COMMONWEALTH of VIRGINIA
Department of Health
Richmond, Va. 23219

JAMES B. KENLEY, M.D.
COMMISSIONER

November 27, 1984

MEMORANDUM

TO: File

FROM: Samuel A. Clement, Director
Division of Health Planning

SUBJECT: Meeting of Advisory Panel on the Consolidated Health Care Data Base Study, October 31, 1984

I invited a group of persons representing health care providers, health care payers, State agencies and the health systems planning community to serve as an advisory panel regarding the study of the feasibility of establishing a consolidated health care data base for Virginia. A list of organizations invited to attend this meeting, with annotation as to those actually present, is attached. This group met at 2:00 p.m. on October 31 in Room 1000 of the James Madison Building.

I opened the meeting by introducing Delegate Mary Marshall who was a member of the General Assembly's Joint Subcommittee Studying the Feasibility of Preserving a Regional Health Planning Mechanism in the Commonwealth. This subcommittee sponsored House Joint Resolution 27, which calls for a study of the feasibility of a consolidated health care data base for Virginia. Delegate Marshall provided some background for the meeting by explaining the basis for the committee's interest in this study. She said that the committee had reached the conclusion that information regarding functioning of the health care system would become more necessary in the future but might become less available unless the State took some action. She mentioned the presentation on the AT&T employee health care data system, which had been given to the committee by a representative of AT&T. She noted that this system focused on total (physician, hospital, etc.) cost per case and was used to evaluate contracts with various providers.

Delegate Marshall said that the resolution contained a broad mandate, due to the committee's lack of certainty about what alternatives were available. She said that the basic objective was to develop a better base for cost containment activities. She said that such a health care data base might apply to State employees or to Medicaid participants, rather than to the entire population.

Dr. Kinloch Nelson, representing the Medical Society of Virginia, referred to the AT&T system and suggested that the State establish such a data base relative to health services utilization and costs for State employees. He felt that such a system would not only show how the health care field was functioning and changing but could serve as a model for development of similar data bases by other employers. Such a system would enable employers and employees to determine which providers were more efficient and cost effective and thus would provide a basis for rational choice among providers.

Louis Rossiter, a member of the VCU faculty, noted that the development of such a data base relative to State employee utilization of health care services would be a very legitimate function of the State and would serve to make the State a prudent buyer of health care services. C. H. Hinnant, representing the Virginia Association of Non-Profit Homes for the Aging, also supported the idea of establishing a health care data base relative to State employees. Delegate Marshall said that the development of a data base for Medicaid participants would be covered at least in part by Medicaid funds, and that this would be an opportune time for funding reasons to develop such a base.

In contrast to a data base limited to State employees or Medicaid participants, Deborah Ferraro, representing the Health Insurance Association of America, stated that HIAA strongly supported a statewide data base relative to hospital utilization covering all patients. She noted that the AT&T data base, which covered all health service utilization, not just hospital care, was extremely expensive to develop and maintain. In response to Ms. Ferraro's comment, Bruce Rueben representing the Virginia Hospital Association and the State Uniform Billing Committee, noted the importance of the question of how such a statewide data base would be implemented and who would actually control and provide the data. Dr. Nelson said that a data base should have physician data as well as hospital data in order to truly compare costs.

Sheila Smith, representing the Eastern Virginia HSA, said that it would be more feasible to follow an incremental approach by starting with a defined population, such as State employees, rather than to try to start initially with all hospital discharges. Bruce Carveth, representing the Northwestern Virginia HSA, strongly supported the idea of a statewide data base that would be useful for health systems planning. He said that such a data base should be developed so that it could generate outputs in a flexible customized manner. Similar views were offered by Dick Phelan, representing the Southwest Virginia HSA. He said that it was important to health systems planners that the data base be directly accessible to them. Charles Weiden, representing the Department of Health Regulatory Boards, noted that health care data means much more than hospital discharge data; for example, it should include data on physicians and other health care personnel such as collected by his department.

George Barker, representing the Northern Virginia HSA, said that it is appropriate to limit the scope of a health care data base to hospital data, because expenditures for hospital care constitute more than 40% of total health care expenditures. Such a data base should include not only hospital discharge data but also data on hospital resources being used. Bruce Rueben said that if UB-82 (the uniform bill for hospital services which went into effect in Virginia October 1) was to be the basis for a data base, then one must consider problems of confidentiality and who would have access to the data.

Rich Jackler, representing Prucare, reported that the Group Health Association of America (the trade association for HMOs) is attempting to develop a uniform data set and data base that would allow for good comparisons of the functioning of HMOs. Dr. Nelson observed that there were two aspects to the data base question. One is the need for a data base to serve health systems planning and the second is need for a data base to provide information so that individuals can make rational choices about use of the health care system. In both cases an improved data base is important.

Sylvia Wayne, representing Blue Cross and Blue Shield of Virginia, said that UB-82 is a good document and a good source of data but Bruce Rueben noted that UB-82 is not yet accepted by all payers. However, it was subsequently noted that those payers covering the overwhelming majority of hospital patients do accept UB-82 as a basis for payment. Peter Clendinen, representing the Virginia Health Care Association, said that a statewide health care data base should include long-term care facilities.

With respect to the question of a uniform accounting system for hospitals, Bruce Rueben said that it is not feasible to attempt to make the hospital accounting system any more uniform than it already is. Warren McKeon, representing the Virginia Rate Review Program, said that the hospital accounting system is already quite uniform and that the payoff from making hospital accounting and reporting any more uniform is not worth the effort.

Susan Polyson, representing the Department of Social Services, said that data base development should begin with a system for State employees. She wondered who would do utilization review, that is, who would examine the data and draw useful information from it. Sylvia Wayne said that Blue Cross and Blue Shield of Virginia are already performing utilization review with respect to State employees covered by Blue Cross.

In summary, two main lines of thought were reflected at this meeting. One line of thought is that an attempt to develop a statewide health care data base should either begin with or even be permanently limited to a data base covering State employees or State employees plus patients whose care is financed by the State (Medicaid and SLH patients). The other line of thought is that a health care data base should be developed covering the entire population of the State but that the content of this data base would have to be limited to hospital patients or to hospital patients and long-term care facility patients.

Thus, the first line of thought is for development of a data base which is limited in the population covered but relatively complete in the scope of services covered. In contrast, the second line of thought calls for a data base covering the entire population but only a limited scope of health care services. No one seemed to think that it was feasible or justified to consider developing a truly comprehensive and consolidated health care data base that would cover most or all health care services for all of the population of Virginia. Thus, the question becomes whether a data base should be developed to serve the needs of policy analysis relative to a segment of the health care field, primarily hospitals, or whether a data base should be developed to permit management of the total health care costs of a defined group of individuals.

Enclosure: List of persons/organizations invited and attending advisory panel meeting on data base study

Persons/Organizations Invited to Serve as an Advisory Panel on the Feasibility of a Consolidated Health Care Data Base for Virginia
October 31, 1984

Mr. Bruce Rueben (present)
Co-Chairman
State Uniform Billing Committee
Virginia Hospital Association
P.O. Box 31394
Richmond, VA 23294
(10/12/84)

Ms. Katherine M. Webb (Bruce
Vice President for Planning Rueben)
Virginia Hospital Association
P.O. Box 31394
Richmond, VA 23294
(10/12/84)

Ms. Sheryl R. Paul, Director (present
Virginia Health Services with Warren
Cost Review Commission McKeon)
805 East Broad Street
7th Floor
Richmond, VA 23219

Mr. Bruce U. Kozlowski, Director
Virginia Department of Medical
Assistance
James Madison Building
Richmond, VA 23219
(10/16/84)

Mr. Jerry Kennerly (present)
Manager of Group Claims
The Travelers Insurance Co.
P.O. Box 26426
Richmond, VA 23261
(10/17/84)

Joan Gardner, Esq. (present)
Associate Counsel
Blue Cross & Blue Shield of
Southwestern Virginia
P.O. Box 13047
Roanoke, VA 24045
(10/17/84)

Mr. James L. Moore, Jr. (Kinloch
Executive Vice President Nelson, M.D.)
The Medical Society of Virginia
4205 Dover Road
Richmond, VA 23221

James O. Roberts (Jim Schold)
Data Services Director
Department of Mental Health and
Mental Retardation
203 Governor Street
Richmond, VA 23219

Constance O. Hall (Susan Polyson)
Chief, Bureau of Economic and
Medical Assistance
Virginia Department of Social Services
8007 Discovery Drive
Richmond, VA 23288

Mr. Peter Clendinen (present)
Executive Director
Virginia Health Care Association
4900 Augusta Avenue, Suite 100
Richmond, VA 23230

Mr. James W. Brittain (Rich Jackler)
Vice President
PruCare of Richmond
1000 Chinaberry Blvd.
Richmond, VA 23225

David Ziskind (Tim Crofton)
Deputy Commissioner
Department of Rehabilitative Services
P. O. Box 11045
Richmond, VA 23230-11045

Ms. Edna Paylor (C. H. Hinnant, III)
Executive Director
Virginia Association of Non-Profit
Homes for the Aging
4900 Augusta Blvd.
Richmond, VA 23230

Louis F. Rossiter, Ph.D. (present)
Dept. of Health Administration, VCU
Box 203, MCV Station
Richmond, VA 23298

Dean Montgomery (George Barker)
Executive Director
Northern Virginia HSA
7245 Arlington Blvd., Suite 300
Falls Church, VA 22042

Michael Osorio, Executive Director
Central Virginia HSA
4900 Augusta Ave., Suite 102
Richmond, VA 23230-3699

Thomas R. Bernier, Executive Dir.
Northwest Virginia HSA (Bruce
Blue Ridge Hospital Carveth)
Charlottesville, VA 22903

Paul M. Boynton, Executive Director
Eastern Virginia HSA (Sheila
11 Koger Center, Suite 203 Smith)
Norfolk, VA 23502

Pamela Corcoran, Associate Director
Southwest Virginia HSA (Richard
602 S. Jefferson St., Suite 601 Phelan)
Roanoke, VA 24011

Sample letter of invitation to attend advisory panel meeting

COMMONWEALTH of VIRGINIA

Department of Health
Richmond, Va. 23219

JAMES B. KENLEY, M.D.
COMMISSIONER

October 19, 1984

Ms. Edna Paylor, Executive Director
Virginia Association of Non-Profit
  Homes for the Aging
4900 Augusta Blvd.
Richmond, VA 23230

Dear Ms. Paylor:

By House Joint Resolution 27, the 1984 General Assembly directed that a study be undertaken of the "feasibility of establishing a consolidated health care data base for Virginia". Several other related matters were requested to be examined in conjunction with the study of the feasibility of establishing a consolidated health care data base. The Department of Health has been assigned lead responsibility for conducting the study, with technical assistance to be provided by the Department of Planning and Budget and Department of Management Analysis and Systems Development (now part of the Department of Information Technology).

Enclosed are a copy of the resolution requesting the study, a brief statement of purpose regarding the study, and a general work plan for producing an initial report to the Governor and General Assembly by December.

The several matters which the resolution asks to be studied encompass a wide range of experience, knowledge, and opinions. Any one of the several specific issues included in the study resolution could by itself be the subject of a substantial investigation and report. We believe therefore that it is most important that a technical advisory panel of knowledgeable and interested persons advise the State agencies in conducting the study and preparing a report to the Governor and General Assembly. We would look to the advisory panel to assist us with respect to the following questions in particular:

--What are the interests and concerns of the health care provider community and the health care financing community relative to establishing an improved aggregate health care data base for Virginia? How strongly would these parties support actions by the Commonwealth to develop a more consolidated and comprehensive health care data base?

--If some action by the Commonwealth to improve the availability of health care information is considered desirable, what are the priorities for action?

--Is a statewide data base of hospital discharge information desirable? Is this a high priority for action? If such a data base were developed, under whose auspices should it be, and how should its development and operation be financed?

--What are current views about the need for and feasibility of establishing a uniform accounting system for hospitals, nursing homes, or other institutional providers of health care?

--What are current views about the adequacy of U.B. 82 as a basis for receiving payment for health care services? Would U.B. 82 be suitable as a sole or principal record for establishing a consolidated data base for hospital discharge information?

We would like for an appropriate representative of the Virginia Association of Non-Profit Homes for the Aging to serve on the advisory panel. We expect the panel to meet twice during the course of the study, with the first meeting to be held Wednesday, October 31, 2:00 p.m., in the Tenth Floor Conference Room of the James Madison Building, 109 Governor St., Richmond. Travel or other expenses associated with this service will not be reimbursable by the Commonwealth.

Please advise me (786-4768 / 786-4891) if the Virginia Association of Non-Profit Homes for the Aging will be represented on the advisory panel for the study requested by House Joint Resolution 27 and who your representative will be. Please let me know also if you would like additional information on the study.

Sincerely,

Samuel A. Clement
Director
Division of Health Planning

SAC/dg

Enclosures: HJR 27
Statement of Purpose
General Work Plan
Matrix of health care data by
setting of care and subject of data