PRIORITIZATION OF DATA NEEDS FOR STATE ENCOUNTER DATA SETS FOR PUBLIC HEALTH AND RESEARCH APPLICATIONS

PUBLIC HEALTH CONSORTIUM MEETING

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EXECUTIVE SUMMARY

This is a summary of the preliminary findings and recommendations from the *HIPAA Inpatient State Encounter Data Practice and Priorities Study*. This study, funded by the National Centers for Health Statistics of the Centers for Disease Control and Prevention (NCHS) and conducted by the National Association of Health Data Organizations (NAHDO) is intended to serve as a discussion and planning document for the Public Health Data Standards Consortium's March 21, 2000 meeting. Discussion from this March 21 meeting will guide additional research activities for the final report, expected June 2000.

The scope of this study was limited to statewide encounter data systems, recognizing that the data needs for public health and research go well beyond administrative data sets. By concentrating efforts first on state data needs, this study intends to promote:

- Education and understanding of the Consortium about the standards setting process;
- Standardization of existing data systems;
- Introduction of state officials to the standard setting processes.

The preliminary findings of this study are:

- States will need education and technical assistance to make the transition to ANSI X12N standards and will benefit from adopting these uniform and expanded standards.

- The Public Health Data Standards Consortium (PHDSC) is an effective mechanism for coordinating and facilitating the national standards setting process.

- Future standards studies should assess data needs for performance measurement and policy.

What is the significance of this study?

Discharge data systems are becoming an important component of state and national health data systems. Over forty states collect inpatient discharge data (1), which provide information about the patterns of care, the health burden, and the costs associated with major morbidity. Despite the limitations, large administrative data sets are used to assess issues of health care access, cost, and quality (2). The systematic collection of discharge data offers a relatively uniform and cost-effective source of health services.

> *For the purposes of this study, discharge data are defined as a complete collection of demographic, clinical, and billing data reported for patients admitted as an inpatient or outpatient to a health care facility.*

This project evaluated data elements commonly collected by states that are directly related to policy analysis and public health surveillance at the state level and includes those elements that states said they would continue to collect even if they were excluded from HIPAA Administrative Simplification X12N core standards (3). By working to solve concrete and defined data needs in a

collaborative process, a positive outcome of this study may be to lay the foundation for future, more challenging standards initiatives.

HIPAA Administrative Simplification
With the advent of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), opportunities to improve the standardization of discharge databases have emerged. HIPAA led to the establishment of the PHDSC--a partnership of public health and research working together to understand and utilize the standards setting process as outlined in HIPAA (4).

Objectives of Encounter Data Priority Needs Study

This study is intended to serve as the basis for the development of a Consortium work plan. Additionally, this project hopes to further the following additional objectives:

- Educate PHC members about the standards setting process and models in practice by ANSI ASC X12 and HL7.

- Promote the use of standards in public health, using existing Health Level 7 (HL 7) or ANSI X12N standards where applicable and encouraging participation in the standards process where current standards do not meet public health needs.

- Propose an Information Model for grouping and classifying the common data elements likely to be included in state encounter data sets.

Early Successes

Two of the above objectives were achieved early in the course of this project: 1) education of public health about the standards setting process and 2) utilizing the X12N process to include race and ethnicity in the Demographic segment of the X12N Implementation Guide (version 4030) for Institutional 837 claims.

Education of States: On December 7, 1999, NAHDO hosted a teleconference on HIPAA Implementation and the Standards Process. Over 100 individuals participated in this teleconference and the follow-up discussion on the NAHDO Administrative Simplification Listserv. Many of these participants were from state Medicaid agencies eager to learn about HIPAA implementation issues. (Unlike public health, which is largely exempt from many HIPAA Administrative Simplification provisions, Medicaid agencies must comply).

Success in Standards Process: Race and ethnicity were the first data elements to be tested through the Consortium process and it demonstrated the power of combining a strong business case with communication among Consortium members. On March 11, 2000, Dr. William Braithwaite (DHHS), on behalf of the HHS Data Council, successfully made the case to the X12N Task Group 2 Workgroup 2 to change Race and Ethnicity from “not used” to “situational” in the next release (4030) of the X12N Institutional Claim Implementation Guide. Key to the business case, was the information gathered by the Consortium, including the fact that 27 states currently collect race/ethnicity with their discharge data.

Data Sources

Three data sources were used for the project:

1. The Healthcare Cost and Utilization Project's 1998 Statewide Encounter Data Availability Inventory (HCUP Partners Inventory) conducted by the National Association of Health Data Organizations (NAHDO) and the MEDSTAT Group in 1999 for the Agency for Healthcare Research and Quality (AHRQ).

2. The 1998 NAHDO Administrative Simplification Committee Survey of State Data Agencies, conducted by NAHDO staff and the Minnesota Health Data Institute.

3. Interviews conducted with state health data organization staff, late 1999

4. Report of the National Committee on Vital and Health Statistics (NCVHS), Core Health Data Elements, August 1996

Study Methods

From the NAHDO and HCUP inventories, NAHDO identified a list of non-ANSI X12N 837 and high-priority data elements that states collect and grouped them into domains or categories. These were the data elements originally targeted for study (Table 1).

Table 1: NON-X12N 837 and HIGH-PRIORITY DATA ELEMENTS COLLECTED BY STATES

Patient Demographics	**Patient Status**	**Clinical**	**Linkage Variables**	**Financial**
Race and Ethnicity County Code Marital Status Living Arrangement Education Occupation	Present on Admission Indicator Severity Score Do Not Resuscitate Functional Status	E-coding (number) Lab/Radiology Pharmacy Values Gestational Age (newborn) Birthweight (newborn) Admitting vitals	Unique Patient ID Physician ID Mothers Medical Record EMS Run number/record	Length of Stay Outlier indicator DRG/MDC Admit time Discharge Time Payer Type Discharge quarter

NAHDO cross-walked these data elements with the 837 X12N Implementation Guide, (version 4010), eliminating from further study those elements that states calculate internally (e.g. severity, discharge quarter), and developed a data collection tool to gather case study/anecdotal information for the remaining targeted elements. This questionnaire asked states about the data collection method (voluntary/mandatory), year element was first collected, compliance to reporting, who resisted and other barriers to collection, and how the data element is used. During the study, several additional fields or data gaps important to states were forwarded to NAHDO for future discussion:

- Time of admit and discharge to ambulatory surgery and Emergency Department;
- Emergency Medical Services record number
- Total provider paid amount
- Observation days
- Patient consent with immunization encounters

Based on the preliminary information gathered under this study, NAHDO's identified opportunities for improving data collection, listed by type of recommendation below:

X12N Elements Important to Discharge Data Systems and (action required)

Required: Principal External Cause of Injury Code (consider expanded coding requirements)
Required: Type of payer (review categories for public health/research and promote use)
Situational: Present on Admission Indicator (educate states, promote use)
Required: Birthweight on newborn encounters (educate states, promote use)
Situational: Race and Ethnicity -occurred during the course of this study using information in part gathered for this study (educate states and assure inclusion in future Implementation Guides)
Required: All dates -admit, discharge, procedure
Not Used: Patient marital status
Required: Patient's Relationship to Subscriber
In the 835 Implementation Guide: Total Provider Payment Amount
Not Used: Patient/Student Status codes

Priority Data Elements for Inclusion into 837 Core Data Standards

Do Not Resuscitate
Mothers Medical Record Number

Data Content/More Study Needed

Pharmacy data
Patient Demographic Data (Education/Income)
Patient functional status
EMS Run Number
Patient Consent for immunization encounters

Data Elements Likely to be addressed by Federal Regulations

National Provider ID
PayerID

Limitations

The scope of elements studied was limited to those data elements most commonly collected in state discharge data systems. Many important data needs were not addressed, such as clinical data elements used in performance measurement. For example, the Healthplan Employer Data and Information Set (HEDIS) defines performance measures that are derived from both administrative and clinical data systems. Adding key elements to X12N data standards may significantly lower the cost to report HEDIS by eliminating or reducing the need for abstracting information from the medical record (e.g. Beta Blocker with Acute Myocardial Infarction encounters).

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(1) Healthcare Cost and Utilization Project (HCUP) 1999 Partners Inventory, Agency for Healthcare Research and Quality (AHRQ)
(2) Elixhauser, A., "The Importance of Administrative Data Sets for Public Health and Research", 1998.

(3) National Association of Health Data Organizations (NAHDO) Administrative Simplification Survey of States, 1998.

(4) Public Health Consortium Fact Sheet, National Center for Health Statistics of the Centers for Disease Control and Prevention, 1999