Appendix 6.2

Data Source Described in Detail – Hospital Data Sets

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Source or Site

- Hospital discharge data set
- Hospital admissions reporting system
- Hospital disease index

Discharge information is collected by the data source in a standardized format on individuals admitted for hospital-based services. This usually includes inpatient stays and outpatient surgery but may also include services performed in outpatient hospital clinics and emergency rooms.

Legal or Professional Mandates

- *Federal law.* The Health Information Portability and Accountability Act of 1996 (HIPAA) legislation defines electronic health care transactions, health information privacy and security standards, electronic signature codes, transaction standards and code sets, and unique health identifiers.

- *Other professional mandates* dovetail with federal requirements (e.g., Joint Commission on the Accreditation of Healthcare Organizations, American Hospital Association).

Mission or Objectives

Discharge data are collected for a wide range of possible uses. These include population-mix studies, market share analysis, hospital charges comparisons, length-of-stay studies, disease-specific and clinical information-specific case volumes, health care delivery access analysis, and crude and severity-adjusted death rate analysis. Discharge data are also used indirectly for financial analysis and billing.

Scope or Breadth

These data result from ongoing data collection and include all inpatient encounters. Some hospital data sets may also include outpatient encounters. The age of population served is defined by the mission of the site (e.g., a children's hospital may serve patients up to age 20 years). A discharge data set may consist of information from one hospital or may be a large statewide discharge data set of all hospitals. A record is created for each defined admission for hospital service. Discharge data sets are defined by a period of time (e.g., year) and are maintained so that they can be accessed over time.

Operational Structure

Information for the data set is collected from many places in the hospital, incorporated into the individual's medical record, and compiled in a standardized format. Health information management or medical records departments are responsible for processing the information that results in the data record for each patient encounter and in ensuring that the medical record contains the required documentation (content).

Type of Information Collected

Information included in this type of data set usually does not include patient names or Social Security numbers. The data elements collected, however, can lead one to a specific medical record. These data sets usually include: hospital identifier, patient medical record number, admission and discharge dates, patient type, patient date of birth, patient gender, patient's residential location (e.g., zip code, county), insurance source, charges, physician type, diagnosis and procedure codes in ICD format, and length of stay. Other information may be collected depending on the objectives of the data set.

Accessibility and Retrievability

Hospital discharge data sets are computerized and are used to generate routine reports and to respond to ad hoc queries. Some hospitals submit their discharge data to a larger organization that collects data from each hospital and compiles the information into a single statewide hospital discharge data set.

Strengths as a Data Source/Site

- *Existing database.* Data are easily accessible, retrievable, and available in a computerized format.
- *Specific information.* Specific data fields can be identified and extracted from the data base.
- *Cross-referencing.* Available data fields provide information that can be used to locate the medical record.
- *Disease classification system.* Information on discharge diagnoses and procedures is collected in a coded and standardized format, currently ICD-9-CM.
- *Timeliness.* Data are usually available rapidly, within 6 months of discharge. Internet technology has increased accessibility and improved timeliness of data from this source for some states.
- *Consistency of the data set.* Data fields are filled in as required for billing and for federal reimbursements.
- *Follow-up.* Hospitals have unique medical record numbers for patients, facilitating tracking and monitoring of cases.
- *Screening tool.* Specific data fields, especially ICD-9-CM disease and procedure codes, can be selected for further investigation.

Weakness as a Data Source/Site

- *Discharge set bias.* The discharge data set is an administrative database. Information is collected and compiled using procedures that suit a particular health facility or meet other legal requirements. It is a services-, planning-, and financial-based data set.
- *Population base.* The service area and patient population for most hospitals are not well defined. Therefore, the relationship of the hospital's patients to a larger group of persons is difficult to quantify.
- *Disease classification system.* Some disease categories and codes for birth defects are not specific and are limited in scope.
- *Accuracy and clarity of diagnosis.* Federal and professional standards are used to govern interpreting medical record documentation, which includes identifying a diagnosis and assigning a representative disease code. Suspected and rule-out conditions may be coded as a final

diagnosis at discharge, leading to overreporting. A diagnosis may not be recorded for many reasons. Underreporting may occur if not all of the diagnoses documented in the patient's medical record are coded.

- *Personal identifiers.* Externally recognizable personal identifiers usually are not available. Data elements can be used to locate medical records. Some states have adopted legislation to permit the reporting of identifying information directly in the discharge data set for specific reportable conditions (e.g., Colorado adopted regulations to permit named reporting from hospital discharge data).
- *Maternal information.* Information on the mother is not recorded on the discharge data record for a newborn infant or child.
- *No medical record is generated.* In some circumstances a medical record is not created. For stillbirths and even some neonatal deaths, a medical record may not be created for the infant. Information pertaining to the delivery outcome, including autopsy and laboratory reports, will be in the mother's delivery medical record. However, the mother's chart cannot be coded to reflect an infant's medical conditions. Therefore, in these circumstances a birth defect diagnosis will be missed. Surveillance staff should use other data sources, such as the vital record, to identify a case where a medical record might not be created.

Liaisons and Partnerships

- *Data processing unit.* Hospital staff in a data processing unit manage the computerized information that is collected from various departments in the hospital. These persons can assist surveillance staff by accessing birth defects information that is stored in computer format.
- *State hospital associations.* Some state hospital associations may serve the function of producing the statewide hospital discharge data set. They have a vested interest in providing customer service to a hospital by compiling aggregate statewide hospital data. Often these associations are also actively involved with the major users of the discharge data set (e.g., health departments, epidemiology programs, health planners).
- *Health information management and medical records departments.* The hospital's medical records staff are responsible for managing the information contained within a medical record. In addition to assembling the medical record and ensuring that it contains the required documentation, skilled personnel – coders – assign the disease classification codes and abstract pertinent information for administrative purposes (e.g., billing and the discharge data set). Since surveillance staff often use the disease classification codes to identify cases, it is helpful to maintain open communication with medical records departments regarding questions about hospital coding rules and other issues that might affect data quality.

Additional Comments

The hospital discharge data set is facing significant changes due to evolving federal regulations, including HIPAA and the conversion of the disease classification from the ICD-9-CM system to ICD-10-CM. HIPAA requirements address electronic transmission of data, standard data elements, and privacy and security issues. ICD-10 is a larger and more complex disease classification system, one that will affect the general taxonomy used for coding purposes.

References

American Hospital Association (AHA). http://www.hospitalconnect.com/

Health Information Portability and Accountability Act of 1996.

Joint Commission on Accreditation of Healthcare Organizations (JCAHO). http://www.jcaho.org/