



National Hospital Care Survey: Electronic Health Record (EHR) Activities

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Electronic Data Collected for NHCS

- Hospitals have a choice for submitting electronic data for all inpatients and ambulatory visits:
 - Electronic health record (EHR) data
 - Uniform Bill (UB) 04 administrative claims data
 - State data files



UB-04 Data

Uniform Bill (UB) 04 administrative claims data

- Data specification/standard
- National Uniform Billing Committee (NUBC)
- Electronic counterpart is the 837 Claim Transaction
- 81 defined major fields and some sub-fields (FL03a, b; FL67A-Q; FL72a-c)
 - Demographics
 - Diagnoses and procedures
 - Services billed (e.g., ICU use, admission through ED, physical therapy)



Benefits of UB-04 Data

- Data are in a standard format and can be sent electronically.
- Personal identifiable information is collected.
 - Identify revisits
 - Link across setting and to external data
- Insurance payer information is more accurate.
- Allows for special studies with oversampling of records
 - Identify substance-involved ED visits



Challenges with UB-04 Data

- Some hospitals:
 - Cannot output the claims data in 837 format
 - Do not generate claims for self-pay patients, charity patients, or prisoners
 - Do not send adjudicated claims
- Accurately identifying visits:
 - ED substance-involved visits using ICD-9-CM diagnosis codes
 - OPD non-procedure visits using ICD-9-CM codes



EHR Data

Electronic health records (EHR) data

- System that pulls information from multiple sources
- Developed by commercial software vendors over time and to the standard of the time
- NOT designed to integrate with competitors' systems
- Types of data that can be extracted:

Patient

Provider

Location

Visit Dates and Times

Medications

Notes (qualitative)

Diagnoses

Procedures

Labs

Images



Benefits of EHR Data

- Obtain all inpatients and ambulatory visits including self-pay, charity and prisoners.
- Collect clinical information without need for medical record abstraction.
- Obtain more information for some data elements such as disposition status.
- Better identification of ED substance-involved visits because of lab and medication data.



Initial Approach with EHR Data

- Ask hospitals to provide EHR data by one of the following:
 - Data from existing standard reports
 - Continuity of Care Documents (CCDs)
 - Extract data from their EHR system for inpatient, ED and OPD settings



Initial Challenges with EHR Data

- Providing data is difficult for hospitals:
 - Many of the standard reports created by vendors do not contain all the data elements NCHS needs.
 - Could not batch CCDs.
 - Extraction takes much time and resources, particularly across three settings.
- Limited standardization of data elements across hospitals



Census EHR Pilot Studies

- EHR Only Pilot:
 - Convenience sample of 9 NHAMCS hospitals with 400+ staffed beds
 - Focus on obtaining ED EHR data for a 3-month period
- EHR and UB-04 Pilot:
 - Convenience sample of 9 NHAMCS hospitals with 400+ staffed beds
 - Focus on obtaining ED EHR data and UB-04 data for a 3-month period



Some Lessons Learned from Census Pilot Studies

- Hospitals want to participate but lack time and resources to extract data.
- Time estimates to extract data ranged from 160 to 400 hours
- Clinical notes are a stumbling block.
- CCDs do not contain enough of the data elements we need and are not easily modified.
- NCHS needs to be clear about what data we want and how to request it.



EHR Vendor Study

- Focusing on NHCS sampled hospitals with 300+ staffed beds (n=227)
- According to the HIMSS Analytical Database:
 - 147 of the 227 hospitals (64.8%) use some release of Epic, Cerner or Allscripts as ED EHR system
 - 77 hospitals use Epic
 - 45 hospitals use Cerner
 - 25 hospitals use Allscripts
 - 171 of the 227 hospitals (75.3%) use some release of Epic, Cerner, Allscripts, McKesson, or Meditech



EHR Vendor Study Continued

- In the summer of 2014, NCHS had discussions with staff from Epic, Cerner, Meditech and Allscripts about extracting ED EHR data from hospitals that use their respective systems.
- NCHS has found one sampled hospital to work with Epic.
 - HL7 Implementation Guide sent to Epic.
 - Epic is mapping elements to hospital's system.
 - NCHS waiting for final cost estimate.
- NCHS is looking for a NHCS sampled hospital to work with Cerner and another with Allscripts.



Other EHR Activities

- A Request for information (RFI) was published in late October 2014.
 - To collect information on strategies, solutions and /or systems to facilitate exporting/extracting, processing and integrating data from UB-04 administrative claims, EHRs, clinical data repositories (CDRs), and legacy clinical information (CIS) systems across participating hospitals.
 - To evaluate the ability of existing solutions to facilitate the secure storage, management and analysis of large volumes of electronic health data.
- Exploring natural language processing (NLP) to help identify substance-involved ED visits.



Thank you!!

More information about NHCS can be found
at <http://www.cdc.gov/nchs/nhcs.htm>



Nobody said it would be easy....

Harvey MacKay



National Hospital
Care Survey

...they just said that it would be worth it.

Harvey Mackay

