

Collecting Electronic Health Record Data for the National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Care Survey (NHCS)

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Overview

Background NCHS' National Health Care Surveys

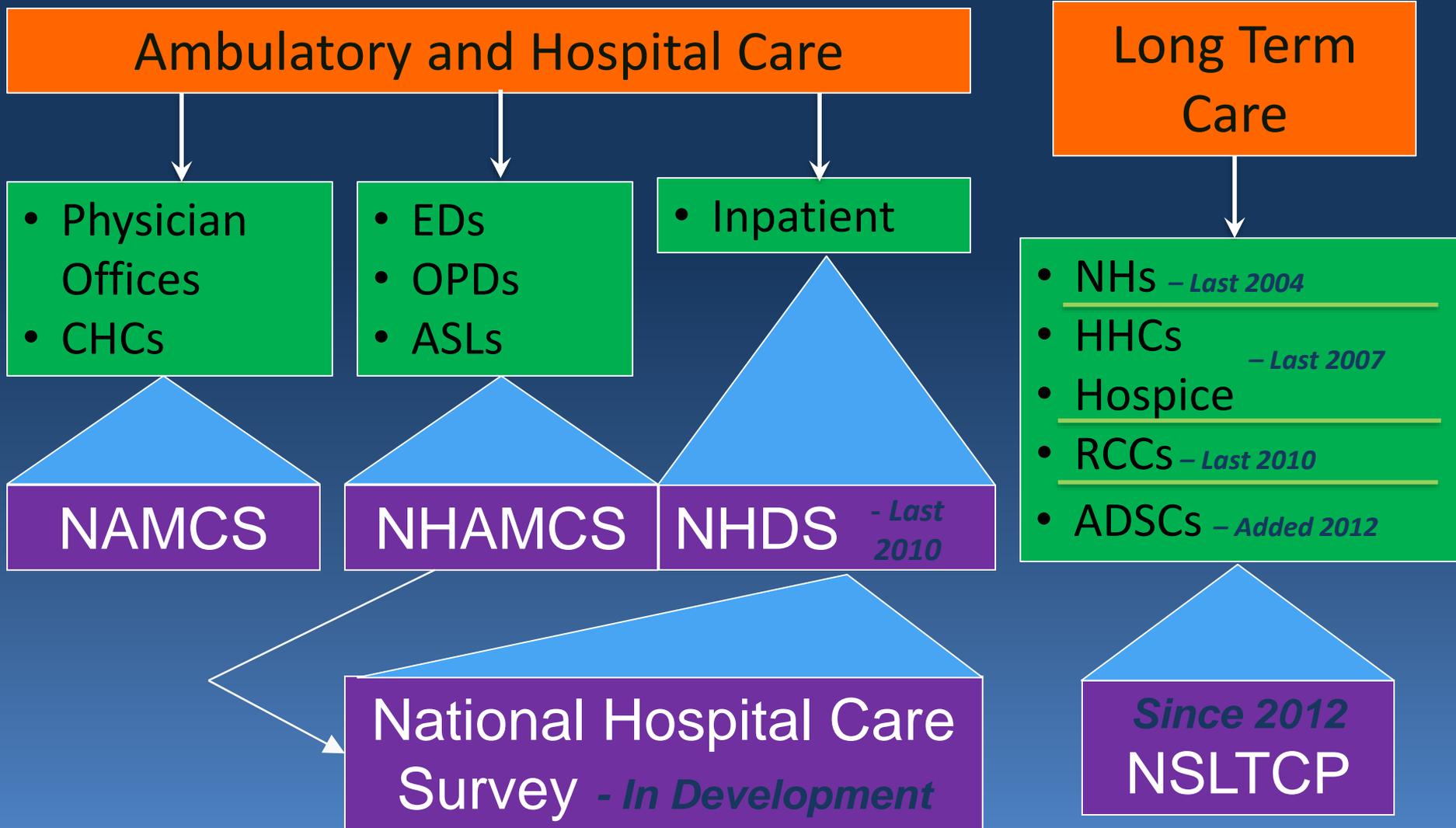
Transition to Electronic Health Records (EHRs)

EHR Data Collection for 2016 NAMCS and NHCS

Challenges and Lessons Learned

Future of NAMCS and NHCS

National Health Care Surveys: Spectrum of Care



Examples of the Data

Patients

- Demographics
- Insurance status
- Residential zip
- Medical conditions
- Smoking history
- Personal identifiers for linkage (e.g., to the National Death Index)

Encounters

- Reason for visit
- Diagnosis
- Procedures and services
- Medications or immunizations
- Laboratory and other diagnostic tests
- Types of providers seen

Why move to EHR data?

- Less burden on the provider
- More clinical detail and depth
- Greater volume of data
 - Linkage across hospital settings
 - Linkage to other National Death Index and Medicare and Medicaid data

What steps were taken to move to EHR data collection?

Research

- Conducted several NAMCS pilot studies sponsored by ASPE.
- Conducted NHAMCS pilot studies with Census Bureau.

Data Standards

- Developed HL7 CDA Implementation Guide for the National Health Care Surveys.

Incentives to change

- Meet Public Health Reporting Objective as part of CMS Electronic Health Record Incentive Programs
- Named in 2015 Edition of Health IT Certification Criteria.

How to implement?

Allowed mixed modes of data collection

- Data collected by multiple formats: abstracted and EHR data collection for NAMCS, claims and EHR data collection for NHCS.

Designed new methods and procedures

- Request data from network or EHR vendors but not individual providers or hospitals.
- Develop testing and validation procedures.

Built an infrastructure and technical capacity

- Takes years to develop so NCHS had to start NAMCS EHR data collection in-house but intends to move to a contractor.

National Ambulatory Medical Care Survey (NAMCS)

- Produces national statistics about ambulatory care services which are used and provided by office-based physicians and various types of clinicians at community health centers (CHCs).
- Historically, data have been collected by medical record abstraction on-site at the physician's office by Census Field Representatives.

2016 NAMCS Data Collection

- Abstracted data collection performed by Census Bureau:
 - Sample of ~3200 office-based physicians and sample of their patient visits for a preselected week specified by NCHS
 - Collection of physician and practice characteristics
- Electronic health record (EHR) data collection conducted by NCHS:
 - Sample of ~500 office-based physicians and all their patient visits for a preselected week specified by NCHS
 - Collection of limited physician and practice characteristics

2016 NAMCS EHR Data Collection

- Needed to build infrastructure to test and validate EHR data and collect production data at NCHS.
- Needed to create methods and procedures to obtain data.
 - Collect physician induction information needed for weighting data.
 - Create technical assistance materials.
 - Hold technical calls with physicians or organizational contacts.

2016 NAMCS EHR Data Collection (continued)

- Testing and Validation:
 - Each participating provider was asked to provide 4 sample CCDs for testing.
 - Sample documents were validated using the CCD Schematron.
 - 794 CCDs tested for 193 physicians.
- Production:
 - Data processed for 112 physicians:
5,292 encounters -- average of 47 per physician

National Hospital Care Survey (NHCS)

- Integrates three long-standing surveys: NHDS, NHAMCS, and DAWN.
- Will provide reliable and timely healthcare utilization data for hospital-based settings.
- Link episodes of care across hospital units as well as link to other data sources such as the National Death Index and Medicare data.
- Data collection is all electronic and conducted by a contractor.

NHCS Data Collection

- Sample of 598 non-federal, non-institutional hospitals with 6 or more staffed inpatient beds:
 - Transmit Uniform Bill (UB) 04 administrative claims data, Vizient, or EHR data.
 - All inpatient, emergency department, and outpatient department encounters for a calendar year (Jan.-Dec.)
- Collection of limited facility information
- Collection of personally identifiable information such as name, address and Social Security number for data linkage

NHCS EHR Data Collection

- 2015:
 - Received EHR custom extract files from 8 hospitals including clinical notes for 2 hospitals.
- 2016:
 - Targeted 98 sampled hospitals that has registered for MU credit.
 - Testing and Validation:
 - 50 hospitals sent a test file
 - Production
 - 41 hospitals sent production data
 - 9 custom extracts
 - 32 C-CDA (e.g., CCD, Transition of Care, or Discharge Summary)

What are the overall challenges?

Technological

- Some hospitals and providers cannot send us EHR data
- Interoperability issues
- How and where to store data collected

Analytical

- Data integration and harmonization
 - Integrate EHR data and abstracted data
 - Integrate EHR data and claims data
- Data Processing

Disclosure

- Public use files

What are Challenges Specific to NAMCS EHR Data Collection?

- CCDs are reasonable match for NAMCS requirements but not a perfect match.
- Some physician/physician groups could not go back and retrieve prior visits.
- No document tested was error free.
 - About 46% of the documents returned one or more errors regarding improperly formatted addresses.
 - Over 70% of the documents one or more errors regarding improperly formatted person names.

What are Challenges Specific to NHCS EHR Data Collection?

- Custom Extracts:
 - Required large time commitment by hospital staff to obtain extracted data.
 - Hard to get hospital to provide data defining codebooks or reference files to look up hospital specific codes.
- C-CDA Documents:
 - No document tested was error free.
 - Difficult to definitively determine encounter setting (e.g., ED or OPD) from CCDs.
 - For ambulatory encounters, it was sometimes difficult to determine start time and end time.

What are Lessons Learned?

- MU is a powerful incentive.
- NCHS gained valuable insights by collecting the 2016 NAMCS in-house.
- C-CDA documents were more immediately available to be produced for both NAMCS and NHCS.
- Because of vendor variations in capturing EHR data, NCHS needs to spend additional resources to develop custom coding to acquire common data elements.
- Opportunity for more data available through EHRs but not currently being collected (e.g., allergies to medication, family history, social history and alcohol use)

What will the National Health Care Surveys look like in the future?

Clinical Depth/Richness

- Collect clinical information objectively without need for medical record abstraction.
- Medications, Laboratory Tests, Imaging, Results

Volume

- Obtain all inpatients and ambulatory visits including self-pay, charity and prisoners.
- Rare conditions

Linkage across settings and to other data

- Repeats visits and hospitalizations
- National Death Index (30, 60, 90 day mortality)
- Medicare and Medicaid Claims

Thank You!!