19th VistA Community Meeting
Bethesda, Maryland, USA
June 18, 2009

Interoperable Health Information: How Can NLM Help?

How Can You Help NLM?

Betsy L. Humphreys
Deputy Director
National Library of Medicine
National Institutes of Health
Department of Health and Human Services

Four Broad Goals

- **Seamless, Uninterrupted Access** to expanding collections of biomedical data, medical knowledge, and health information

- **Trusted Information Services** that promote health literacy, improve health outcomes, and reduce health disparities worldwide

- **Integrated Biomedical, Clinical, and Public Health Information Systems** that promote scientific discovery and speed transition of research into practice

- **A Strong and Diverse Workforce** for biomedical informatics research, systems development, and innovative service delivery

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Some specifics relevant to EHRs & VistA

- Continue/enhance standards work in response to U.S. government priorities and feedback from "real" use in EHRs

- Promote development of "Next Generation" EHRs
  (and PHRs) NLM Track Fri. 11:30 am, 2:15 pm

- Promote use of advanced representations of biomedical knowledge in conjunction with EHRs

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ARRA Title XIII – HITECH Act - Feb. 2009

- Incorporates text from previously circulated Health IT bills
- Establishes Office of the National Coordinator of Health IT (ONC) and 2 new Federal Advisory Committees
  - HIT Policy Committee & HIT Standards Committee
- Allocates $2B to ONC to support various activities to promote interoperable health IT
- Modifies HIPAA Privacy and Security provisions
- Has many regulatory and reporting requirements
- Title IV: Allocates additional $17+B to be spent via CMS, states
  - Differential reimbursement for "meaningful use" of electronic health records for care of Medicare/Medicaid patients

ARRA HITECH & U.S. Government Priorities

Draft "Meaningful Use" definition released June 16

◆ Health Outcomes Policy Priorities

- Care Goals
  - Objectives   (2011, 2013, 2015)
    - Measures (2011, 2013, 2015)

◆ Comments due by June 26, 2009

- No more than 1,000 words ☺

Draft "Meaningful Use" definition released June 16

◆ Health Outcomes Policy Priorities

- Improve quality, safety, efficiency, and reduce health disparities

- Engage patients and families

- Improve care coordination

- Improve population and public health

- Ensure adequate privacy and security protections for personal health information

Draft "Meaningful Use" definition – Example

- **Priority**: Improve quality, safety, efficiency, and reduce health disparities
  - **Care Goal** (1 of 5): Provide access to comprehensive patient health data for patient's health care team
  - **2011 Objective** (1 of 12): Maintain an up-to-date problem list
  - **2011 Measure** (1 of 12+): Report % of hypertensive patients with BP under control

Draft "Meaningful Use" definition – Example

- **Priority**: Engage patients & families
  - **Care Goal:** Provide patients & families with access to data, knowledge & tools to make informed decisions, manage health
  - **2011 Objective** (1 of 3): Provide access to patient-specific educational resources
  - **2011 Measure** (1 of 3): % of patients with access to patient-specific educational resources

Draft "**Meaningful use**" Care Goals– Success likely to require: (1) some content standardization, (2) links to external information

- Provide access to comprehensive patient health data for patient's health care team
- Use evidence-based order sets & CPOE
- Apply clinical decision support at the point of care
- Generate lists of patients who need care and use them to reach out to patients
- Report to patient registries for quality improvement, public reporting, etc.
- Provide patients & families with access to data, knowledge, & tools
- Exchange meaningful clinical information among professional health care team
- Communicate with public health agencies

Health Information Technology and Health Data Standards at NLM

🖨 **Printer-friendly Version**

> **NLM is the central coordinating body for clinical terminology standards within the Department of Health and Human Services (HHS). NLM works closely with the Office of the National Coordinator for Health Information Technology (ONC) to ensure NLM's efforts are aligned with the goal of the President and HHS Secretary for the nationwide implementation of an interoperable health information technology infrastructure to improve the quality and efficiency of health care.**

▶ Health Data Standards

> 04/06/09 Owners of LOINC, NPU, and SNOMED CT Begin Trial of Cooperative Terminology Development
> 04/04/09 IHTSDO and HL7 Sign Agreement

NLM supports the development, enhancement, and distribution of clinically specific vocabularies to facilitate the exchange of clinical data and improve retrieval of health information.

- Clinical Vocabularies supported, licensed, or developed by NLM:
  SNOMED CT | LOINC | RxNorm
- Uniform distribution mechanism for HIPAA and clinical vocabulary standards through the UMLS Metathesaurus
- UMLS Enhanced VA/KP Problem List Subset of SNOMED

NLM distributes FDA approved Structured Product Labels linked to RxNorm and related medication information:

- DailyMed

NLM coordinates efforts to develop mappings between HIPAA code sets and standard clinical vocabularies

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Related Sites

HealthIT (U.S. Government Health Information Technology Web Site)

Office of the National Coordinator for Health Information Technology (ONC)

AHRQ National Resource Center for Health IT

USHIK (United States Health Information Knowledgebase)

NIH Initiatives

Clinical and Translational Science Awards

CaBIG (Cancer Biomedical Informatics Grid)

United States
National Library of Medicine
National Institutes of Health

Content Standards: NLM's primary focus is *terminology…*

◆ Data elements, e.g., gender, presenting complaint)

◆ Descriptions of entities, e.g., birth certificate

◆ Messages, e.g., send test result

◆ Allowable values for data elements, which can be entire *vocabularies*

◆ Reference values, i.e., what is "normal"?

◆ Mapping/alignment between different vocabularies and with message standards

◆ Information models that define the context in which standards are used

◆ Survey questions and any coded responses

◆ Guideline, protocol, and algorithm formats

UMLS Metathesaurus (Apr 2009)

~2,215,395 concepts (distinct meanings)

~8,006,171 unique concept names (some are minor variations)

From 152 vocabulary sources (e.g., SNOMED CT, ICD-9-CM, Gene Ontology)

In 19 different languages (all concepts have English names; some have names in other languages)

Associated resources: UMLS Semantic Network, MetaMorphoSys Customization tool, Browser, Lexical tools, Mapping software, etc.

Clinical Terminology Standards
supported, licensed, or developed by NLM

- **SNOMED CT** *(Systematized Nomenclature of Medicine – Clinical Terms)*   NLM Track – Fri. 10:45 am
  - Broad clinical coverage: diseases, findings, anatomy, organisms, etc.

- **LOINC*** (Logical Observation Identifiers, Names, Codes) NLM Track – Fri. 9:45 am
  - Specific tests, measurements, assessment instruments

- **RxNorm*** NLM Track – Fri. 9:00 am
  - Clinical drugs (ingredient + strength + dose form) linked to ingredients, brand names, names used by VA, commercial drug knowledge bases, NDCs, etc.

  (RxTerms – entry vocabulary tailored for rapid data entry by US users) NLM Track – Thurs. 3:45 pm

*U.S. designated standard (CHI > HITSP > ARRA-HITECH)

INTERNATIONAL HEALTH TERMINOLOGY
STANDARDS DEVELOPMENT ORGANISATION

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Welcome to IHTSDO

IHTSDO is a not-for-profit association that develops and promotes use of SNOMED CT to support safe and effective health information exchange. SNOMED CT is a clinical terminology and is considered to be the most comprehensive, multilingual healthcare terminology in the world.

IHTSDO
– global efforts for a common health terminology

News

2008 Annual Activity Report
In April 2009 the General Assembly approved the 2008 Annual Activity Report. The report includes a letter to the Community of Practice and information... [more]

27.04.09

Reports from April 2009 Meeting

IHTSDO October Conference
Click here to read the latest conference information (accomodation info posted on 15th June)

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Owner of SNOMED CT since 2007
NLM is US Member (one of 12 at moment)

Some NLM Assumptions

- Standardizing *some* data elements during initial data capture will be cost-effective

- Standardization can occur "under the hood" in clinical information systems

- You don't need to choose between standard vocabulary and accurate patient data

- We need to use and perfect the standard terminologies we already have – *not create new ones*

- BUT – It all needs to be *EASIER!!*

Recent (9/2008-5/2009) NLM Board of Regents Review of NLM Health Data Standards Activities

- Among other recommendations:
  - Provide additional tools and services to help users incorporate standards where they will have a positive impact - NOW
  - Establish tight feedback/improvement loop with a set of clinical system users **
  - Promote & enable collaboration in development of terminology value sets and useful clinical subsets

  ** This conference is a golden opportunity ☺

NLM can help -

- Determine if concepts and terms are *already* present in standard terminologies
  - term look-up, batch lists, extraction from clinical texts
- Map local vocabularies to standard terminologies
- Add missing concepts and terms to standard vocabularies
- Provide clinically useful subsets of large terminologies NLM Track - Fri. 3:15 pm
- Create, disseminate, and update standard terminology value sets for data elements

NLM provides -

◆ Public access to:

● Structured Product Labels for medications as released by the FDA (linked to standard RxNorm names and identifiers) in the **DailyMed** NLM Track 1:30 pm

● Linkable quality health information for patients & families (English, Spanish, selected items in other languages) in **MedlinePlus**

● "Standard" clinical trial registry and *summary* results data in **ClinicalTrials.gov**

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Current Health News
▶ For Some, Virtual Colonoscopy May Be Just as Good
▶ Lifestyle May Counter Blood Pressure Genes
▶ FDA Issues Public Health Advisory Regarding Levemir Insulin
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Videos de procedimientos quirúrgicos

Noticias de Salud

▶ Aumentan los atracones de bebida en las universidades estadounidenses
▶ ¿Su vida tiene un propósito? Entonces tal vez sea más larga
▶ Síntomas de accidente cerebral, distintos en mujeres y hombres
▶ Más noticias...

Página Recomendada

El mejor regalo para el día del padre: Información de salud de confianza. Mostrale la página del tema de salud de los hombres

Últimas Novedades

La gripe porcina está en las noticias. Infórmese:

▶ Página de MedlinePlus sobre gripe porcina
▶ Documento de los CDC
▶ Documento de los CDC con más información

Póngase al día con su salud en MedlinePlus

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ClinicalTrials.gov is a registry of federally and privately supported clinical trials conducted in the United States and around the world. ClinicalTrials.gov gives you information about a trial's purpose, who may participate, locations, and phone numbers for more details. This information should be used in conjunction with advice from health care professionals.   Read more...

▶ Search for Clinical Trials

Find trials for a specific medical condition or other criteria in the ClinicalTrials.gov registry. ClinicalTrials.gov currently has 74,623 trials with locations in 167 countries.

▶ Investigator Instructions

Get instructions for clinical trial investigators/sponsors about how to register trials in ClinicalTrials.gov. Learn about mandatory registration and results reporting requirements and US Public Law 110-85 (FDAAA).

▶ Background Information

Learn about clinical trials and how to use ClinicalTrials.gov, or access other consumer health information from the US National Institutes of Health.

Resources:

Understanding Clinical Trials

What's New

Glossary

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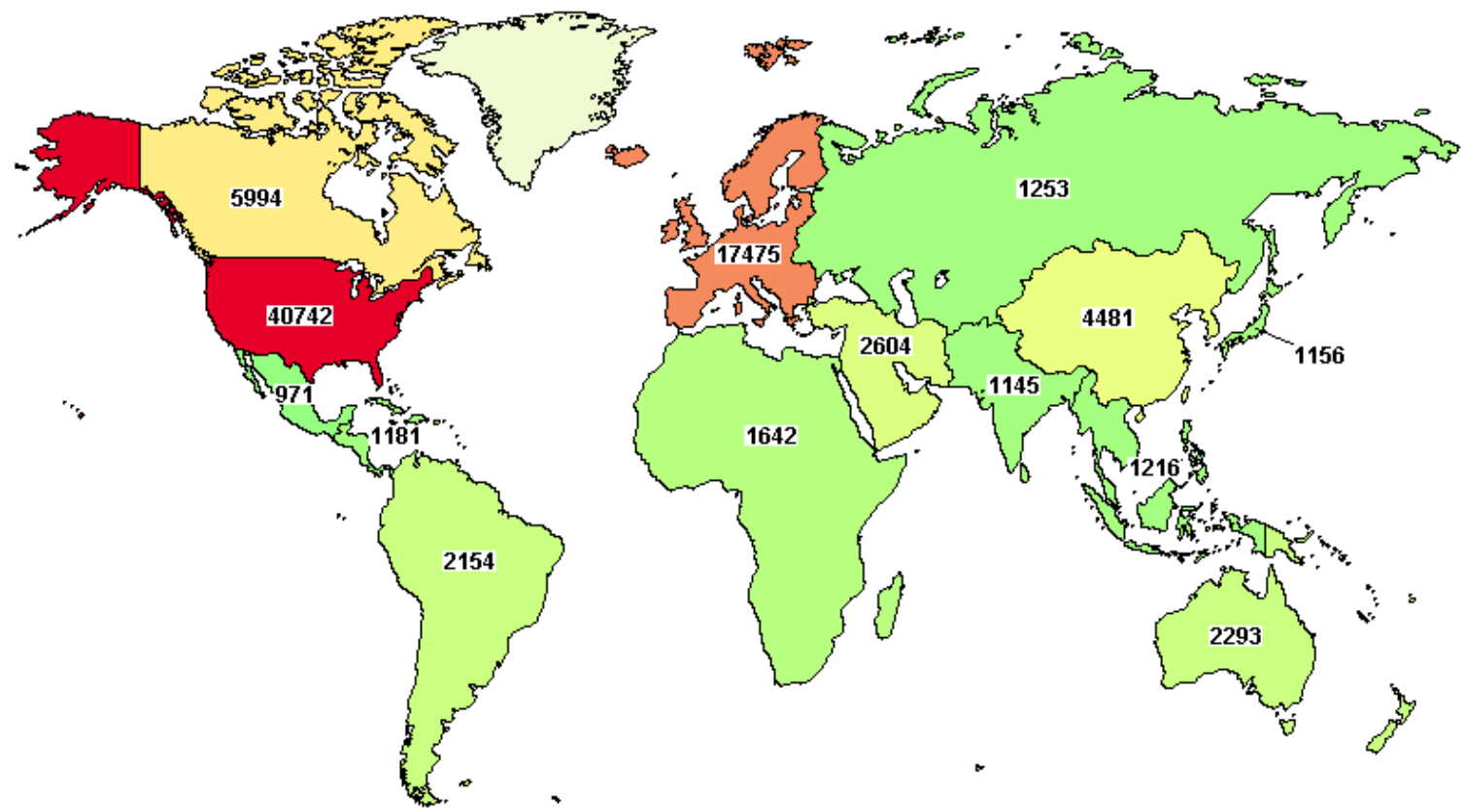
You can help NLM -

- ◆ Identify what would be most useful to implementers
- ◆ Use the UMLS resources, clinical terminology standards, and links to NLM information in real EHR implementations
- ◆ Provide the feedback needed to make them fit – and *easier* - to use in real clinical settings

Thank you

Betsy.Humphreys@nih.hhs.gov