Introducing SNOMED CT
The Global Clinical Terminology
SNOMED Clinical Terms

- A controlled coded clinical terminology for use in Electronic Health Records
  - Developed in the USA and the UK by
    - College of American Pathologists in USA
    - National Health Service in the UK
  - Design based on
    - Identified user requirements
    - Practical experience
    - Scientific principles established in peer reviewed publications
  - First released in 2002
- Acquired for the public good by IHTSDO in 2007
Requirements for Meaningful Health Records

- Making health records electronic
  - A significant step forward
  - Improves communication
  - Increases availability of relevant information

... but it is only a partial solution; the real challenge is ...

- Making health records meaningful
  - Identifying significant facts in oceans of data
  - Enabling effective meaning-based retrieval
  - Linking the EHR to authoritative clinical knowledge

- SNOMED CT represents clinical information meaningfully as part of a well-designed EHR
Classifications (e.g. ICD-9 & ICD-10)

- Essential to the big picture view of healthcare
  - Group ideas for aggregation and analysis
  - Add statistical value to data
- Limited value in an individual patient EHR
  - Represent one dimension of meaning
    - For example ‘viral pneumonia’ (J12 or J12.9)
      - Classified as a ‘respiratory disease’
      - But not classified as a ‘viral disease’
  - No links to body sites, causes, etc.
    - For example, ‘viral pneumonia’ (J12 or J12.9)
      - Not linked to site ‘lung’
      - Not linked to causative agent ‘virus’
SNOMED CT Adds Meaning

- Every coded concept is linked to related concepts
  - Multi-axial subtype hierarchy (‘is a’ relationships)
  - Logical definitions (attribute relationships)
SNOMED CT and Classifications

- Classifications like ICD-9 and ICD-10
  - Essential to the big picture view of healthcare
  - Limited value in an individual patient EHR

- SNOMED CT
  - Rich semantic structure adds meaning to the EHR
  - Adequate detail for clinical recording
  - Broad scope of coverage

- SNOMED CT maps to Classifications
  - Existing maps to ICD-9 (US) and ICD-10 (UK NHS)
  - Enhanced rule-based approach to mapping
    - Being applied to ICD-10 by the IHTSDO
    - Adopted by the NLM for mapping to ICD-10-CM.
EHR Benefits of SNOMED CT

- Enhancing the care of individual patients:
  - Display of appropriate information
  - Guideline and decision support integration
  - Communicating and sharing relevant information

- Enhancing the care of populations of patients:
  - Epidemiology monitoring and reporting
  - Research into the causes and management of diseases

- Supporting cost-effective delivery of care:
  - Guidelines to minimize the risk of costly errors
  - Reducing duplication of investigation and interventions
  - Auditing the delivery of clinical services
  - Planning service delivery based on emerging health trends
SNOMED CT supports Electronic Health Record retrieval to enhance delivery of individual patient care

- Selecting and displaying relevant clinical information from a patient record during a consultation
- Guidelines and decision support systems that check the patient record to provide real-time advice
- Communicating and sharing relevant information with other people involved in delivering care to the patient
- Retrospective searches for patterns of findings or treatments that require additional follow-up
SNOMED CT supports Electronic Health Record retrieval to enhance healthcare delivery for populations

- Epidemiological monitoring and reporting
- Research into causes and management of diseases
- Planning service delivery based on emerging national and local health trends
- Supporting cost-effective care delivery
  - Available information reduces duplication of investigations and unnecessary interventions
  - Guidelines minimize risk of costly errors
- Enhanced audits of care delivery with options for detailed analysis of clinical records of outliers and exceptions
Design Benefits of SNOMED CT

- Comprehensive clinical scope
  - Reduces need to support multiple code systems
  - Common framework for consistent retrieval and processing

- Logical definitions
  - Allow clinically relevant meaning-based retrieval

- Optional post-coordination
  - Combining codes to add detail and specificity
  - Increases scope without ‘combinatorial explosion’ of codes

- Updates and versioning
  - Regular updates to International Release (six-monthly)
  - Support for incremental updates
  - Full historical view of all previous versions of SNOMED CT
SNOMED CT - Comprehensive Scope

- Clinical Finding
- Diagnosis
- Symptom
- Procedure
- Observable
- Body structure
- Organism
- Substance
- Pharmaceutical
- Physical object
- Physical force
- Specimen
The International Health Terminology Standards Development Organisation (IHTSDO)

- Maintains and delivers SNOMED Clinical Terms
  - Licensed to registered Affiliates
  - Free use in Member countries
  - Low-cost licenses of institutions in other countries
    - Free in poorest countries
    - Free for “Public Good” applications

- Is an International not-for-profit association
  - Based in Denmark
  - Owned by National Members
  - Governed by General Assembly of its Members
  - Funded by countries based on national wealth
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Additional Information about SNOMED CT

Information Sheets
- SNOMED CT Benefits
- SNOMED CT & Meaningful Use

Other Documentation
- SNOMED CT Documentation (www.snomed.org/doc)
- IHTSDO Web Site (www.ihtsdo.org)