A World *of* Possibility

Everydaytheworldof health care seems to get a bit smaller, as medical knowledge and patient care is shared across geographical borders. Yet at the same time, the scope of information that clinicians must store, share and retrieve in order to do their jobs effectively continues to grow. Diverse medical records must be coordinated not only across a patient's lifetime, but among groups of patients and entire populations to ensure proper treatment, track disease trends and provide the best possible health outcomes.

How can the health care industry build a seamless infrastructure of worldwide care while integrating an overwhelming amount of clinical data? By starting with a strong foundation: SNOMED Clinical Terms® (SNOMED CT®), the most comprehensive multilingual clinical reference terminology available in the world.

SNOMED CT is a comprehensive and precise clinical reference terminology that makes healthcare information accessible and useable, whenever and wherever it is needed. Global in scope, yet adaptable for national purposes, SNOMED CT provides a "common language" of unsurpassed depth that enables a consistent way of capturing, sharing and aggregating health data across clinical specialties and sites of care.

The work is a result of extensive collaboration between two worldwide leaders in clinical terminology: SNOMED® International, a division of the College of American Pathologists (CAP), and the United Kingdom's National Health Service (NHS). Drawing on many years of combined research, development and health care leadership, SNOMED CT merges the content and structure of the CAP's SNOMED Reference Terminology® (SNOMED RT®) Version 1.0 with the NHS' Clinical Terms Version 3 (Read Codes). It builds on the experience of SNOMED users in over 40 countries.

With formal computer-readable definitions, sophisticated searches on data coded with SNOMED CT are faster, more reliable and consistent. SNOMED CT delivers unmatched content and expressivity for clinical documentation and reporting on an international level, facilitating medical communication that spans languages, clinical specialties and geographic borders.

SNOMED CT contains concepts linked to clinical knowledge to enable accurate recording of data without ambiguity. The terminology's content also includes descriptions or synonyms relating to clinical concepts, each with their own unique identifier. Links, known as semantic relationships, between clinical concepts provide formal definitions.

The SNOMED CT structure ensures interoperability across software applications of diseases, treatments, etiologies, clinical findings, therapies, procedures and outcomes. The breadth and depth of the terminology, as well as its computer-readable hierarchies, enable faster, reliable and consistent retrieval of robust clinical information based on flexible queries. Concepts covered by SNOMED CT at multiple levels of granularity include:

- Finding
- Disease
- Procedure and intervention
- Observable entity
- Body structure
- Organism
- Substance
- Pharmaceutical / biological product
- Specimen

- Physical object
- Physical force
- Events
- Environments and geographical locations
- Social context
- Context-dependent categories
- Staging and scales
- Attribute
- Qualifier value

This depth allows health care enterprises to unlock the true power of healthcare information. Users can record data just once, at the level of specificity they choose, then mine it repeatedly for decision support, statistical reporting, outcomes measurement, treatment guidelines and cost analysis. Cases can be retrieved based on numerous different criteria, including clinical and laboratory findings, causative agents, anatomical structure and therapeutic procedures. Software developers benefit from a tool kit and detailed documentation.

Perhaps the most exciting aspect of SNOMED CT is its almost limitless applicability. With SNOMED CT, clinicians, researchers and patients can apply information in ways that they may not even have realized were possible.

Because SNOMED CT is highly scalable, it can be used by a wide variety of health care settings from individual clinicians to nationwide provider organizations, government agencies and major pharmaceutical corporations. SNOMED CT works through implementation in software applications, representing clinically relevant information in a reliable, reproducible manner.
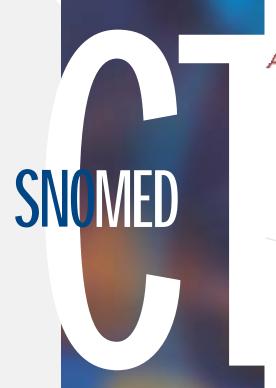
Building All the Right Bridges

Created with extensive industry input, SNOMED CT provides the critical links necessary to ensure seamless integration with existing systems.

Although comprehensive on its own, SNOMED CT cross maps to other medical classifications already in use, such as ICD-9-CM, ICD-O3, ICD-10, Laboratory LOINC and OPCS-4. This avoids duplicate data capture, while facilitating enhanced health reporting, billing and statistical analysis. In addition, SNOMED CT is aligned with numerous key health care standards, including HL7, DICOM, ANSI and ISO.

SNOMED CT provides a framework to manage language dialects, clinically relevant subsets, qualifiers and extensions, such as the US and UK drug extensions of proprietary drug concepts and terms unique to these particular localities. This framework lets users take advantage of SNOMED CT's broad coverage while integrating their own specific codes, leading to easier adaptation to local needs for more effective delivery of high quality health care.

SNOMED CT is fully compatible with earlier editions of SNOMED and Clinical Terms Version 3, with history mechanisms that will allow users to migrate easily from one to the other while preserving legacy data.

- Electronic medical records, including problem lists and disease templates
- Physician order entry for laboratory, imaging and other investigations
- Electronic prescribing
- Public health reporting
- Laboratory information systems
- 3-D image labeling and auto indexing
- Telemedicine
- Literature encoding
- Data warehousing
- Genetic databases
- Therapeutic decision support
- Cancer registry reporting
- Case report forms for clinical research
- Emergency room charting
- Consumer health information services

SNOMED CT

A Partnership with a Future

Converging external and internal factors are moving the health care industry toward the point where a standard, controlled clinical vocabulary will become a requirement for all types of organizations and SNOMED CT, the most comprehensive world-wide terminology available, is leading the way.

The CAP and NHS are committed to ensuring that SNOMED CT maintains exceptional quality standards and remains responsive to changes in technology and medical knowledge. The work will undergo rigorous quality control procedures, including manual and machine supported review of synonyms, relationships, hierarchies, and compliance with editorial policies established by the CAP. Domain expertise from accredited health care specialists in the United States and the United Kingdom will also be used to ensure that the terminology is biomedically accurate and consistent with current practice.

To learn how SNOMED CT can help your organization transform its approach to collecting, retrieving and analyzing clinical data, please contact us at www.snomed.org.

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