

USA Health Challenges - Nursing

*** Information Literacy** (From: Finkert & Turner, 2009)

- * Knowledge gaps and a lack of readiness to embrace EBP among nurse educators, clinicians, and administrators
- * Nurses seldom read research
- * Many nurses do not have access to a library in their clinical environments
- * Many nurses do not have access to the Internet at the point-of-care

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EMRs Essential to EBP & Knowledge Integration

* Standardized health information exchange could produce cost savings of \$2.3 billion/year (Center for Information Technology Leadership, 2009)

* Using e-prescribing reduces medication errors, frequency, type, and duration rates, and allergies by 20% (Gandek et al., 2009)

*** EBP**

- * Infrastructure
- * Decentralized, networked structure
- * Enterprise-wide standards-based
- * Nationally applied data platform (e.g. Veterans Affairs, Genentech, HCLT)

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EMRs Essential to EBP & Knowledge Integration

* Using IT could prevent >2 million adverse drug events & 190,000 hospitalizations/year

* \$44 billion could be saved in medication, radiology, laboratory and hospitalization expenditures per year

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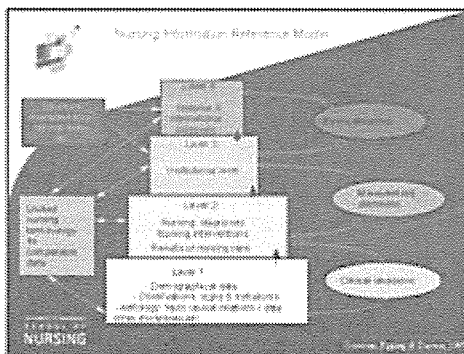
Health IT Strategic Framework

Goal 1: Inform Clinical Practice
Goal 2: Interconnect Clinicians
Goal 3: Personalize Care
Goal 4: Improve Population Health

Using this document as a template, please create a Health IT Strategic Framework for your organization.

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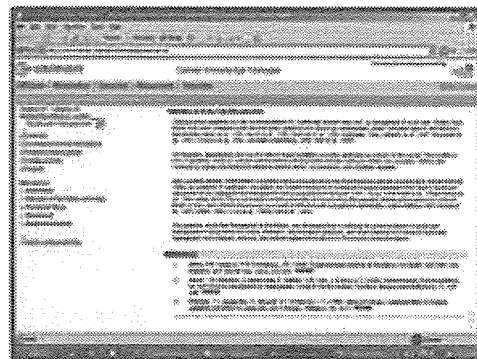
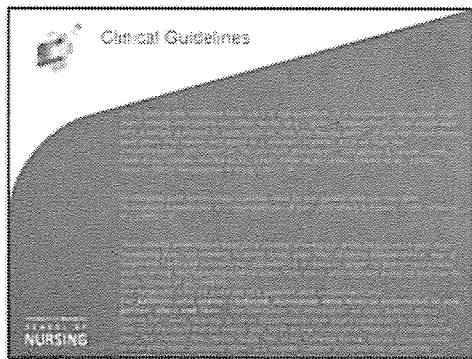
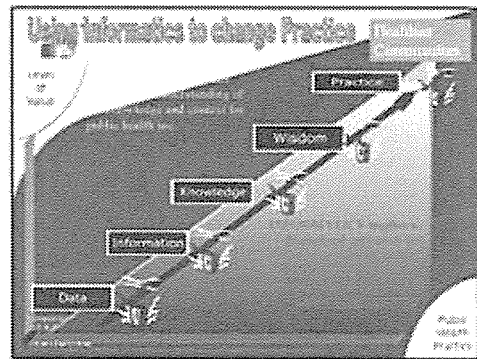
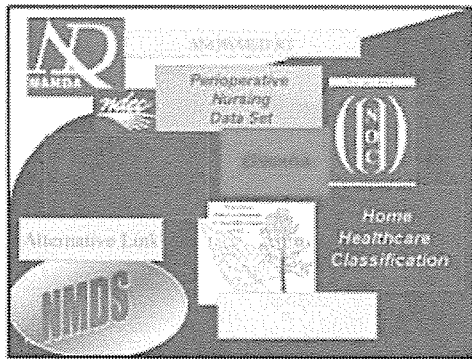
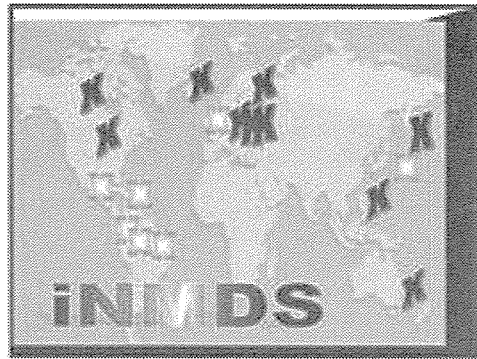
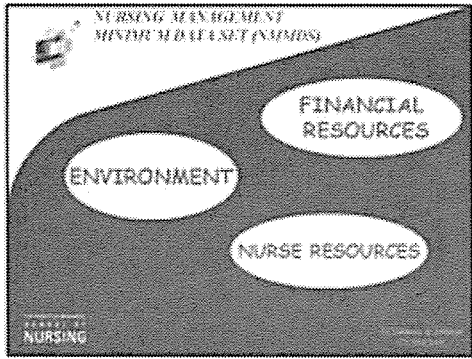
Health Information Systems & Services

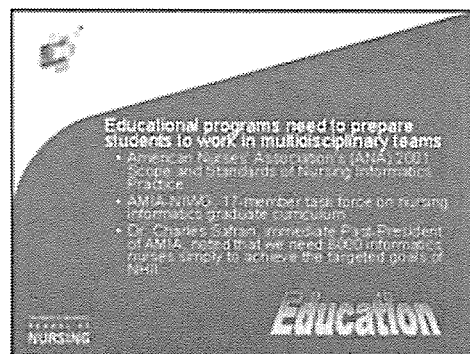
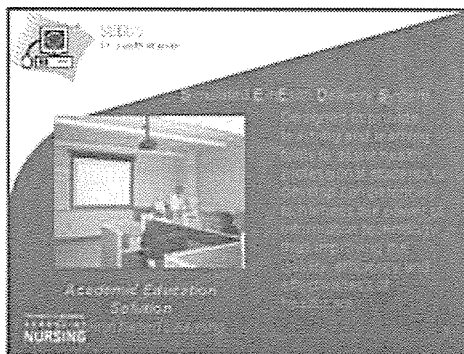
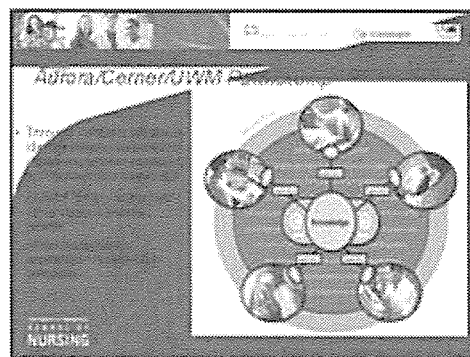
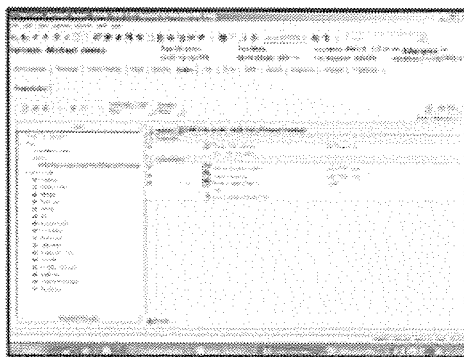
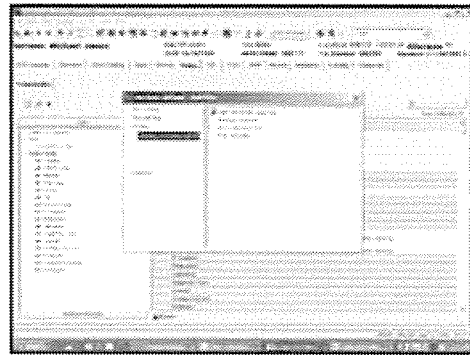
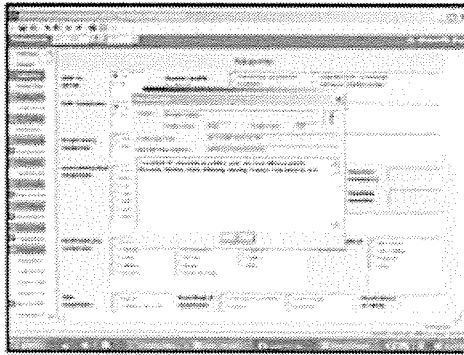


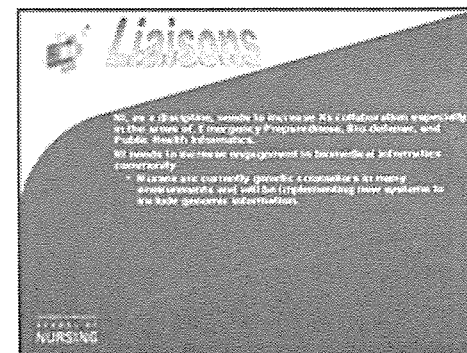
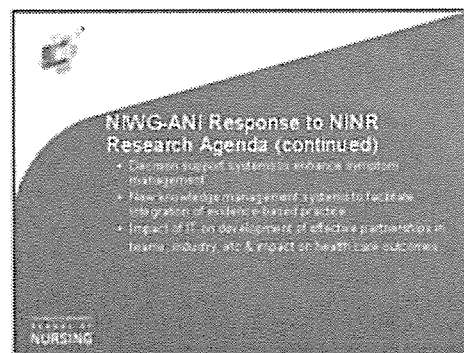
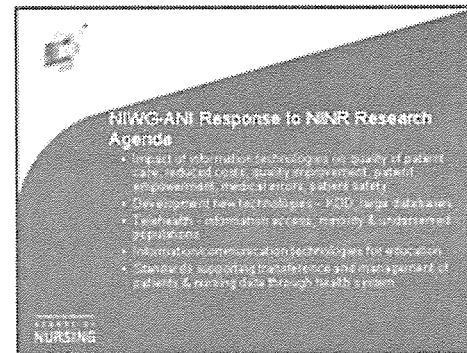
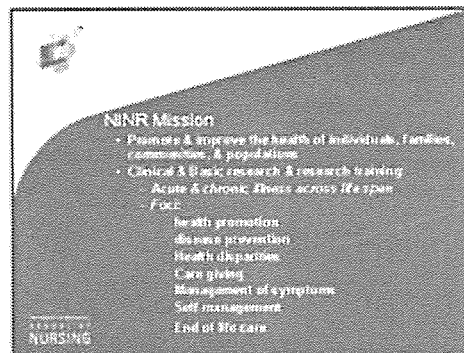
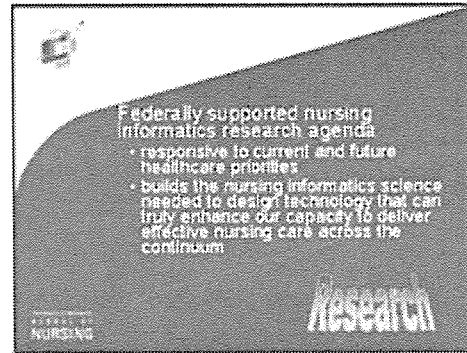
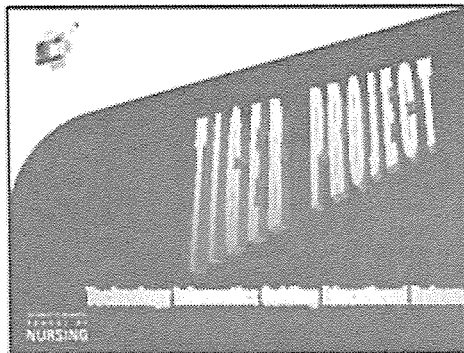
Nursing Patient Service

AMNDOS

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Liaisons

NI 191 Liaison activities for strategic nursing organizations

- The International Medical Informatics Association Nursing Informatics Special Interest Group (IMIA-NI)
- Alliance for Nursing Informatics (ANI), which includes more than 100 nursing informatics professionals and 10 informatics-focused organizations
- American Organization of Nurse Executives (AONE)
- Nursing Organizations Alliance (NOA), which represents more than 10 nursing specialty organizations
- American Association of Colleges of Nursing
- National League for Nursing (NLN)

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Policy

NI contributes to government Requests For Information (RFI) when they relate to nursing informatics content (e.g., nurse practitioners prescribe medications and should be a part of payments related to all prescribing efforts and pay for performance activities)

Nurses working in informatics participate in the policy development with ANA

Nursing informatics professionals recruited by industry should continue to pursue a Standard Occupational Classification (SOC) code, and a valid American Industry Classification System (NAICS) code

AMERICAN ASSOCIATION OF COLLEGES OF NURSING

USA

Computerizing Health Care & Nursing

Conne White Cleary
PhD, RN, FAAN, FACM
University of Minnesota

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2. The Situation of Computerizing Health Care and Nursing in Finland

Presentation by Professor Kaija Saranto

Nursing Informatics 2006, Seoul Korea

The Situation of Computerizing Health Care and Nursing in Finland

NI 2006
Seoul 11.6.2006
Kaija Saranto, PhD, Professor
University of Kuopio
Department of Health Policy and Management

Greetings From Finland



A map of Europe with Finland highlighted in a darker shade. A small box with the word 'Finland' and a flag icon points to the highlighted area.

Content

- Health care service system in Finland
- Electronic nursing documentation
- National initiatives
- Future development

Facts about Finland

- Population 5 200 000
- Area: 338 145 sq km
- People under 15 years constitute about 18 % of the total population
- People over 65 years some 15 %. The population is aging.
- Life expectancy was 81 years for women and 74 years for men in 2000.
- Home of Nokia, Linux and Santa Claus
- The proportional ratio of mobile phones and Internet connections is very high


Health care services

- Finnish municipalities are obligated by law to arrange specialized care. This is done by federations of municipalities.
- The country is divided in to 10 hospital districts and there are about 70 public hospitals for specialized care in the country.
- There are 5 university hospitals, 15 central hospitals and 40 smaller (district) hospitals.
- There are a few private hospitals (5 % of hospital days, 1400 beds,) and 2 state owned psychiatric hospitals.

Health Care Delivery Paradigm Shift

Traditional System	Information-Driven System
■ Hospital Information Systems (HIS)	■ Integrated Delivery Systems (IDS)
■ Hospital-based	■ Enterprise-based
■ Illness focused	■ Wellness & Illness focused
■ Encounter determined	■ Comprehensive across continuum
■ Episodic record	■ Longitudinal record
■ Local Area Network (LAN)	■ World Wide Web (WWW)
■ Professional focused	■ Consumer focused


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The Finnish Classification of Nursing Intervention (FINI)

- Based on the hierarchical structure of (Home Health Care or Clinical Care Classification)
- Mainly the same content than HHCC
- The changes are approved by Dr. Saba
- Tested in a study process at Kuopio University Hospital
- Is implemented and in use at North-Karelia Central Hospital since 2002
- The Finnish Classification of Nursing Diagnosis developed in 2003

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

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The Components of Finnish Classification of Nursing Intervention (FINI)

Activity	Physical regulation
Coping	Respiration
Elimination	Role relationship
Fluid-volume	Safety
Health behavior	Self-Care
Health services	Psychological regulation
Medication	Sensory
Nutrition	Skin integrity

- Components have main and subcategories


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National Electronic Health Record

- ◆ The project of the EHR is funded by the Ministry and led by the Association of Local and Regional Authorities
- ◆ Data elements were analyzed in cooperation with different interest groups (professionals, administration, software-enterprises), also publicly available for comments through internet
- ◆ "The minimum data set" or "core data" has been defined and published in 2004. Material for practical implementation is under development, available soon
- ◆ Implementation into existing EHR-systems in pilot organizations is in process. 7 regional projects have formed clusters with software enterprises and are coordinated by the Association and the Ministry


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The core elements of the EHR

◆ Patient identification	◆ Procedures
◆ Organizational identification	◆ Medication
◆ Episode of care	◆ Functionality
◆ Problems and diagnosis	◆ Assistive devices
◆ Health related data	◆ Living will
◆ Nursing Minimum Data Set	◆ Discharge summary
◆ Psychological monitoring	◆ Continuity of care
◆ Tests and examinations	◆ Informed consent
	◆ Statements


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Definition Nursing Minimum Data Set

- The NMDS is defined as: a minimum data set of items of information with uniform definitions and categories concerning the specific dimension of nursing, which meets the information needs of multiple data users in the health care system. (Saranto and Lemp, 2000)

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Purposes of Nursing Minimum Data Set

- Describe nursing care
- Enhance documentation
- Comparability of nursing data
- Quality assurance evaluations
- Share data with health providers & researchers
- Demonstrate trends
- Improved costing of nursing services
- Development and refinement of record systems
- Policy based on data

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Nationally Standardized Electronic Nursing Documentation in Finland by 2007

AIMS

1. to develop a nationally united and standardized nursing documentation system by the year 2007
2. to use the standardized nursing data to manage and assess the quality of the nursing process
3. to integrate the nursing documentation into the multi-professional e-health records

THANK YOU

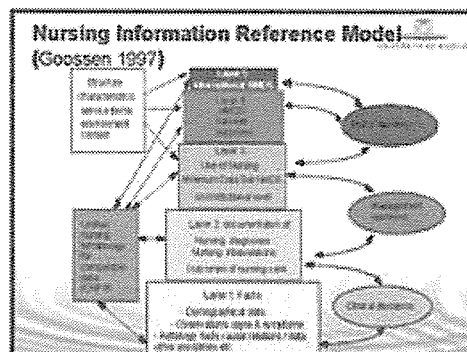
The nationally defined structure of nursing documentation is reported in 32 health care organizations (113 pilot units) during 2005-2007 by the support of the Ministry of Social Affairs and Health.

Providing covers: special care, primary care, homecare and elderly care.

THANK YOU

Nursing Minimum Data Set in Finland

1. **Nursing diagnosis (based on the Finnish Classification of Nursing Diagnosis)**
 - describes patient's present nursing need or problem
 - Electronic health care professional identification, date
2. **Nursing Intervention (based on the Finnish Classification of Nursing Interventions)**
 - describes care planning, delivery and effectiveness
3. **Nursing Outcomes (-> development of the classification system in process)**
 - describes outcomes based on nursing need
 - status (eg. unchanged/improved/worse) and assessment
4. **Intensity of Nursing Care (Oulu Patient Classification)**
5. **Discharge Summary (-> development in process)**



Conclusion

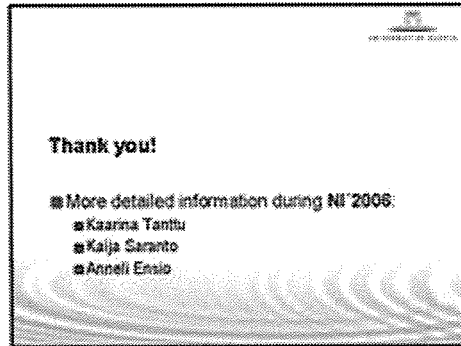
- Multidisciplinary practice means co-operation but also consensus
- Nursing process is approved to be used as the structure of nursing documentation - needs still education
- Computers are used since 1980' in many hospitals - nurses' IT skills vary a lot
- Nurses have good knowledge in nursing but they need education in the use of nursing terminology
- The use of nursing terminology requires a new way to document not to think!
- The usability of electronic health records must be developed in co-operation with software enterprises

Motto

..if we cannot name it, we cannot control it, finance it, research it or put it into public policy"
Horma Lang

"and put it into information systems"
Suzanne Bakken

Nursing Informatics 2006, Seoul Korea



(3) SNOMED-CT にみる看護用語 (医療情報学会)

国立看護大学校 柏木公一

1. SNOMED-CT とは

SNOMED は、Systematized Nomenclature of Medicine の略で、米国臨床病理医協会が作成した医療用語集である。その後、イギリスの国民保健サービス (NHS:National Health Service) が作成した Clinical Terms Version 3 (ReadCode) と統合して、現在の SNOMED-CT (Clinical Terms) となった。SNOMED-CT には、30 万語以上の概念、77 万語以上の用語 (2006 年 7 月版) が含まれており、病名、所見、処置、観察項目、身体部位などあらゆる医療用語が含まれている。なお、SNOMED-CT は英語で作成されており、ドイツ語とスペイン語の翻訳版が存在するが、これまでのところ、日本語版は公開されていない。

2. SNOMED-CT と看護用語

SNOMED-CT は、以下に示すような看護用語集との対応付けが行われている。

- NIC (看護介入分類 Nursing Intervention Classification) 4th : 514 語
- NOC (看護成果分類 Nursing Outcome Classification) 3rd : 330 語
- NANDA (NANDA 看護診断 North American Nursing Diagnosis Association) (5th : 167 語)
- PNDS (周手術期データセット Perioperative Nursing Data Set)
- Clinical Care Classification
- The Omaha System

また、2006 年 10 月には、ICNP (看護実践

国際用語集 International Classification for Nursing Practice) との共同作業が開始されたとアナウンスされ、事実上、国際的に使用されている看護用語集の多くが SNOMED-CT に含まれていることになる。

3. 看護の用語について

統計調査といった目的のためには、標準化された用語集が必要である。しかし、現実の世界では、言語や専門職の違いなどによって、1つの用語が異なる意味で使われている。ここでは前者を「標準用語集の用語」、後者を「現場で使用される用語」として区別して考える。

「標準用語集の用語」は、ある目的を果たすために作られた用語集であり、独自に拡張したり、意味を変更して使用することはできない。また、その目的外に使用すると用語の定義などに矛盾を生じることもあるため、本来は限定した範囲でしか使用できないものである。このような標準用語集は、目的・適応範囲を明確に宣言し、その目的に責任を負う組織が作成・更新といった管理を行う必要がある。

一方、「現場で使用される用語」は、主に医療現場のコミュニケーション (会話・記録を含む) に使用され、俗語や略語、また、その場所でしか通用しないローカルな意味を持つことも多い。

SNOMED-CT といった参照用語集は、「現場で使用される用語」を俗語や略語を含めて識別し、コンピュータで処理するために使用

されるものである。一度、コンピュータで識別可能になれば、同義語や、上位語・下位語、他の概念への意味リンクといった情報によって、様々な分析が可能になると考えられており、電子カルテに蓄積される膨大な文書进行处理するには不可欠な基盤となる。

現在、日本では SNOMED-CT のような用語集が存在しておらず、電子カルテに自由記載された文書情報が活用できない。これは海外の用語を日本語に翻訳するだけでは不十分であり、現場で使用される用語の収集・整理を行う必要がある。

SNOMED-CTにみる看護用語

柏木公一（国立看護大学校）

発表内容

1. SNOMED-CTの概要
2. SNOMED-CTができた背景
 - ・“標準用語集”と“参照用語集”

発表スライドは、日本医療情報学会課題研究会
用語モデル研究会 ホームページ

Google | 用語モデル研究会 |

SNOMED-CT

- 巨大な医学用語集
 - 30万概念
 - 77万用語
 - 90万関連
- 2006年7月版

- 病名 (ICD)、薬剤、所見、部位……

SNOMED-CTに含まれている看護用語集

- NIC (4th : 514語)
- NOC (3rd : 330語)
- NANDA (5th : 167語)
- PNDS(周手術期データセット)
- Clinical Care Classification
- The Omaha System

- ICNP (2006/10/9 共同作業開始)

SNOMED-CTの利用について

- SNOMED-CTは有料
 - 年間利用ライセンス料が必要
 - 印刷物はなく、CD-ROM版のみ
- SNOMED-CTは英語
 - 日本語版は作成されていない
 - スペイン語版とドイツ語版の翻訳がある

SNOMED-CTは米国では無償

- 2003年7月
米国医学図書館と3240万ドル
(38億8800万円:1\$=¥120)で
5年間のライセンス契約を結び、
SNOMED-CTのCore Contentは、
米国内で無償で使えるようになった

SNOMED-CT: 19カテゴリー

所見 (Finding)	物理力 (Physical force)
疾患 (Disease)	出来事 (Events)
処置 (Procedure)	地域・場所 (Environments and geographical locations)
観察項目 (Observable entity)	社会的内容 (Social context)
人体構造 (Body structure)	状況依存カテゴリー (Context-dependent categories)
生物 (Organism)	尺度 (Staging and scales)
物質 (Substance)	属性 (Attribute)
薬剤 (Pharmaceutical / biologic product)	修飾語句 (Qualifier value)
検体 (Specimen)	特殊概念 (Special concept)
物 (Physical object)	

1. 所見 (Finding) 39,138概念

- 所見は、主に症状が入るカテゴリーである。

- 「62315008 下痢 diarrhea (finding)」

- 「48694002 不安 anxiety (finding)」

2. 疾患 (Disease) 70,832概念

- 疾患カテゴリーは、いわゆる病名

- 「74400008 虫垂炎 appendicitis (disorder)」

- 「127013003 糖尿病性腎症 diabetic renal disease (disorder)」

3. 処置 (Procedure) 50,319概念

- 処置には、検査や治療などの医療行為が入る。
 - 「6143009 糖尿病患者教育 diabetic patient education (regime/therapy)」
 - 「371754007 退院計画 discharge planning (procedure)」
 - 「2475000 24時間蓄尿 urine specimen collection, 24 hours (procedure)」

5. 人体構造 (Body structure) 31,298概念

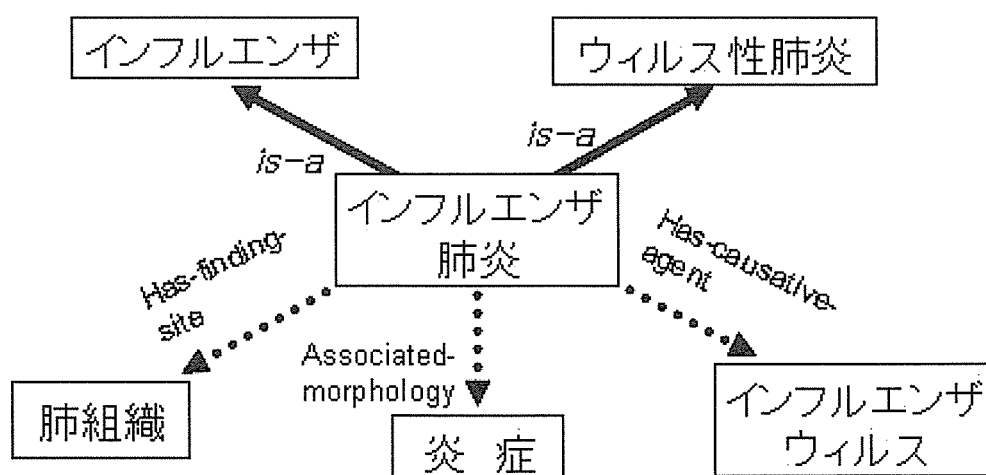
- 正常な人体構造だけでなく、「膿」「手術創」といった正常ではありえない部分の名称も含まれる。
 - 「116368001 胆嚢 Gallbladder part (body structure)」
 - 「367646009 膿 Pus (morphologic abnormality)」
 - 「112633009 手術創 Surgical wound (morphologic abnormality)」

6. 生物 (Organism) 24,830概念

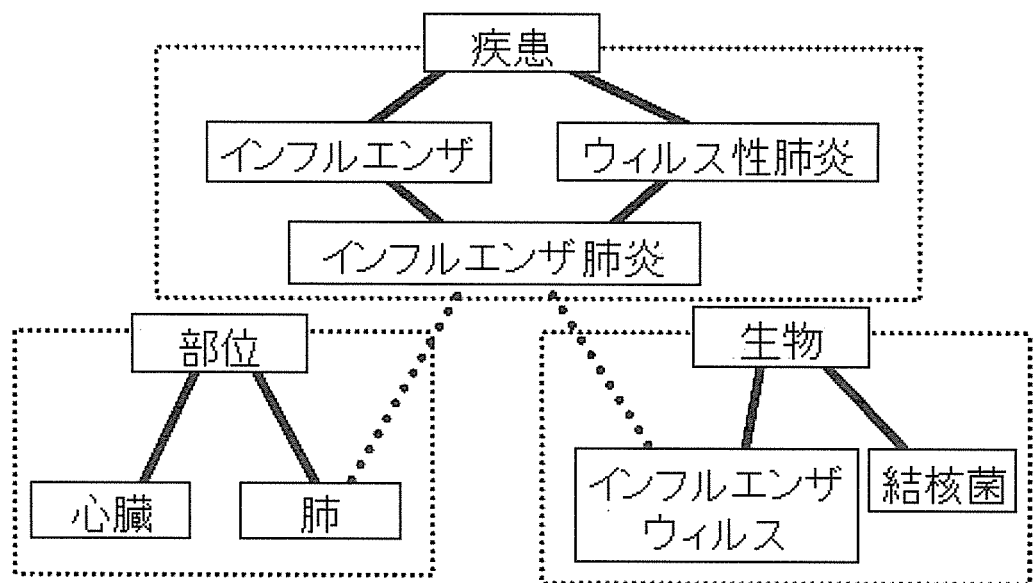
- 動物、植物、細菌など人間以外の生命体が含まれる。

- 「84514002 秋田犬 akita dog (organism)」
- 「58539007 蚊 mosquito (organism)」
- 「115329001 MRSA methicillin resistant Staphylococcus aureus (organism)」
- 「78213009 チューリップ tulipa (organism)」

関連の種類



カテゴリと関連



SNOMED-Internationalへ

- SNOMED-CTは、国際用語集としての活動を開始
- イギリス、カナダ、オーストラリア、デンマーク、リトアニアが加盟予定(日本は未定)

SNOMED-CTの背景 “標準用語集”と“参照用語集”

1) 標準用語集について