Representation of Medical Informatics in the Wikipedia and its Perspectives

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Motivation

- „Daddy, what are you doing at work?“
- Questions from laymen regarding „oncology“ and „cancer registry“ topics
  - How can we transfer knowledge about our specialty to the public or specialists we are cooperating with (e.g. physicians)?
- Overwhelming results from internet searches
  => much information but often few knowledge
- Textbooks often cannot reflect new projects
  - How can we as members of a specialty (easily) get up to date information about off topics
Wikipedia – a possible solution?

- Wikipedia – free online encyclopedia
- Centralised resource with knowledge („versus“ scattered information as result from internet searches)
- Start January 2001
- 437,086 entries in January 2005
  (687,752 in August 2005)
Wiki

Definition from the Wikipedia
- A wiki is a web application that allows users to add content, as on an Internet forum, but also allows anyone to edit the content.
- The name is based on the Hawaiian term wiki wiki, meaning “quick” or “informal”.

Wikis gain increasing popularity
- as tools for collaborative work
The Ideas Behind the Wikipedia

- “free encyclopedia that anyone can edit”
  - “easy low cost access to free knowledge to empower them [every single person] to do whatever it is that they want to do”
  - Collaboration of authors (including some kind of peer review)
  - Continuous improvement of articles
- Editing is simple and can easily be learnt
- Content available under the GNU Free Documentation License
Medical informatics
From Wikipedia, the free encyclopedia.

Medical Informatics is the name given to the application of information technology to healthcare. It is the:

"understanding, skills and tools that enable the sharing and use of information to deliver healthcare and promote health" (British Medical Informatics Society).

Medical informatics is often called healthcare informatics or biomedical informatics, and forms part of the wider domain of eHealth. These later-generation terms reflect the substantive contribution of the citizen & non-medical professions to the generation and usage of healthcare data and related information. Additionally, medical informaticians are active in bioinformatics and other fields not strictly defined as health care.

Contents

1 Aspects of the field
2 History
3 See also
4 External links
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Aspects of the field

These include:

- architectures for electronic medical records and other health information systems used for billing, scheduling or research.
- decision support systems in healthcare
- messaging standards for the exchange of information between healthcare information systems (e.g. through the use of the HL7 data exchange standard) - these specifically define the means to exchange data, not the content.
- controlled medical vocabularies such as the Standardized Nomenclature of Medicine, Clinical Terms
Editing Medical informatics

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==Aspects of the field==

[[Image:immune_auto.jpg|thumb|right]]A HIS's automatic
Key Questions

- General: Quality
  - => Completeness
  - => Correctness
  - => Protection against vandalism / spam
  - => Language: Understandability / neutral point of view

- Specific: Medical Informatics
  - => Coverage and quality of articles
  - => Audience (laymen, specialists)
Methods

- Focus on coverage of topics
  - Sample (size: 57) of terms mainly from the table of contents of the “Handbook of Medical Informatics”
    - Search on two days (October 17th, 2004 and January 2nd, 2005)
    - Existence / date of entry
    - Date of last Change
    - Number of Changes
    - Intensity of changes as index:
      number of changes / (last change – date entered + 1)
  - not representative (what could be representative?)
    - General „informatics“ topics
    - Specific „medical informatics“ topics

- Introduction of new articles / modification of existing
  - What happens with new articles (improvements, vandalism, ...)?
Results

- General "informatics" topics covered well
- Important rather specific "Medical Informatics" terms not found on first visit
  - *Nursing Informatics***
  - *Hospital Information System*, Clinical Information System
  - ICD-O, ICPM (=> *Medical Classification*)
  - Biosignal
  - Arden Syntax, Guideline (Medical Guideline Dec 18th, 2004)
  - Health Telematics
  - *Cancer Registry*
  - *: entered by the author
  - **: entered + significant changes by other authors
Results II

- Frequency of changes
  - Average one change / twenty days
  - High frequency on „Medical record“

- Quality of entries
  - Not the focus of this work
  - Sometimes too technical writing
  - No vandalism in this area
    (but observed in other areas)
  - Some attempts to introduce advertisements
    (Electronic Medical Record)
Discussion I

- Wikipedia general
  - Test by computer magazine (c’t, Oct. 04)
    - Overall comparable quality with respect to commercial products
      (Microsoft Encarta Pro and Brockhaus, German version)
  - „Wikipedia might be completed in 10 years“
    - Founder Jimmy Wales cited in a German newspaper
      (Frankfurter Rundschau Aug. 06, 05)

- => The „Wikipedia“-idea works well
Discussion II

- Wikipedia and Medical Informatics
  - Not well represented
  - Possible reasons
    - low awareness of / few knowledge about the Wikipedia project in the Medical Informatics "community"
    - no resources to contribute to the project
    - Wikipedia not estimated as a possibility to transfer knowledge about Medical Informatics to the public
Discussion III

- Should Medical Informatics be presented in the Wikipedia?

- Yes
  - Public representation is an obligation of each „living“ science
  - Existing official MI websites are not suitable for broad public
  - Numerous sites are focused on specific projects
  - Search engines generally only assist with specific searches with some user knowledge about a topic
  - Wikipedia seems to evolve into THE central ressource for knowledge search
Welcome to IMIA!

IMIA's goals and objectives include:

- the promotion of informatics in health care and biomedical research
- the advancement of international cooperation
- the stimulation of research, development and education
- the dissemination and exchange of information

Inherent in this mission is to bring together, from a global perspective, scientists, researchers, vendors, consultants and suppliers in an environment of cooperation and sharing. The international membership network of National Member Societies, IMIA Regions, Corporate and Academic Institutional Members, and our Working and Special Interest Groups that constitute the "IMIA family" is uniquely positioned to achieve these goals.

Register your expression of interest for Medinfo 2007 NOW!

Current Announcements

Interested in joining?

2005 IMIA YEARBOOK FLYER

Reports

IMIA General Assembly
August 28, 2005
Discussion IV

- Which audience?
  - Laymen (general, understandable, few changes)
  - AND Specialists (more specific ...)

- Rule (from Wikipedia)
  - „When you do write articles, consider the audience in your writing. An article entitled "Use of chromatic scales in early Baroque music" is likely to be read by musicians, and so technical details and jargon are entirely appropriate. But an article entitled "Rap music" is likely to be read by laymen who want a brief and plainly written overview, with links to more detailed information if available.“
Discussion V

- How organise? Some ideas ...
  - Wikipedia work is grass root work
    - => Raise awareness
  - Wikipedia work trains writing
    - => Let students do the work
  - Wikipedia work is practised collaboration
    - => that's we all talk about and that we need ...
  - Wikipedia software (WikiMedia) offers mechanisms to
    - watch pages (e.g. track own contributions)
    - discuss contents
    - preserve history
    - => protection and evolution towards better quality
Aspects of the field

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- use of hand-held or portable devices to assist providers with data entry, retrieval, and medical decision-making

History

Medical informatics began in the 1950s with the rise of useable computation devices, computers.

Early names for medical informatics included medical computing, medical computer science, computer medicine, medical electronic data processing, medical automatic data processing, medical information processing, medical information science, medical software engineering and medical computer technology.
==Aspects of the field==
[Image:immune_auto.jpg|thumb|right|A HIS's automatic immunization data entry in the patient's admission module.]
These include:
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Conclusion

- Wiki is a technique for collaborative development of content
  - => easily to keep up-to-date
- Wikipedia is an online knowledge resource with increasing importance
- Medical Informatics should be better represented in the Wikipedia
- Small contributions by a significant proportion of teachers and students of Medical Informatics could improve the representation