

Information and Communication Technologies in Modern Health Library

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Who am I?

- Professor of Medical Informatics
- « Medical Informatics »
 - The field of information science concerned with the analysis and dissemination of medical data through the application of computers to various aspects of health care and medicine
- Narrower than « Information Science »
 - The field of knowledge, theory, and technology dealing with the collection of facts and figures, and the processes and methods involved in their manipulation, storage, dissemination, publication, and retrieval. It includes the fields of COMMUNICATION; PUBLISHING; LIBRARY SCIENCE; and informatics

Information and Communication Technologies (ICT) in Modern Health Library

- **Exists since 50 years**
 - The first computer should have been used by a medical librarian!!!
- **Medical librarians (vs. Physicans) are always leaders to use these new technologies**

ICT in Rouen, France

- Rouen = modern library???
- Nonetheless, in 1990 B. Thirion was connected to the Minitel
 - Slow
 - Expensive
 - Few (but not 0) services
- In 2007, B. Thirion and three medical librarians are connected to the Internet 10h/5d
 - Fast
 - Less expensive
 - A lot of services

ICT & Health Library: services

- Access to electronic information
 - Bibliographic databases
 - MEDLINE free since 1997
 - PASCAL in French: still necessary to pay
 - Bibliometric databases
 - Web of Science: too expensive for Rouen (100K\$); present in Marseille or Mexico
 - Journals
 - Access via publishers +++
 - Access by journals (electronic + paper)
 - Rouen: 1,500 electronic journals in health
 - UNAM (Mexico): 5,000
- Never enough*

ICT & Health Library: services

- Access to electronic information
 - Internet
 - Search tools
 - Google
- Information watch

ICT & Health Library, new services: Web 2.0 or Semantic Web

- Blog
- RSS
 - metaRSS in Rouen
- Terminology server
 - MeSH terminology server developed in Rouen
 - Acess to PubMed in French
 - Model for other languages in Europe (7PCRD)
 - Multi-terminology server in Rouen
 - ICD 10, SNOMED, MeSH, French CPT, ICF, ...
 - Difficult task
- One advice: accept innovation

ICT & Health Library, new services:

- Respect standards, avoid specific developments vs. generic approach
- Metadata
 - Dublin Core, IEEE LOM
- Health terminologies
 - MeSH, ICD 10, SNOMED

ICT & Health Library: new paradigm?

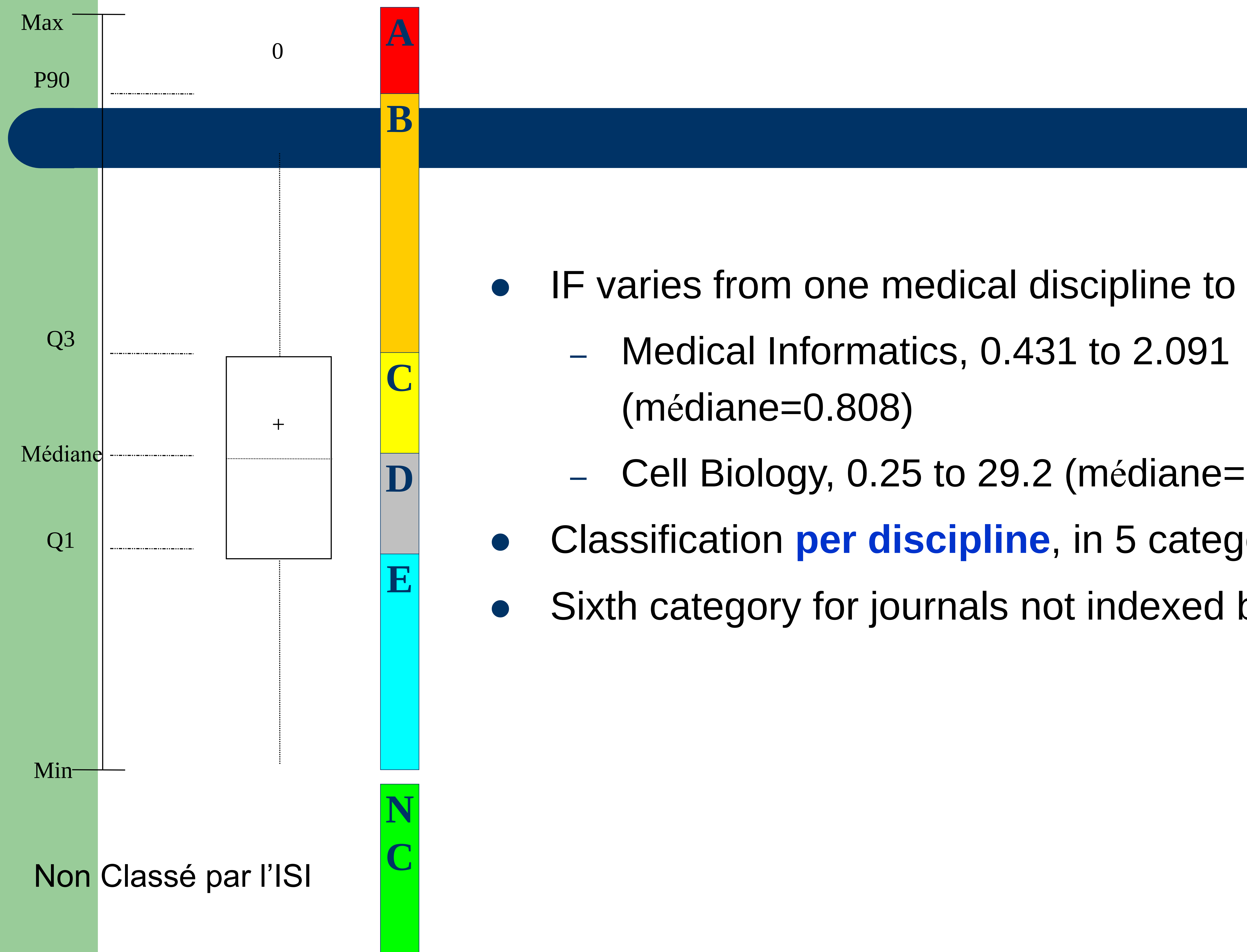
- Some paradigms are emphasized
 - Sharing +++
 - MEDLIB
 - Listserv and Forums
- Difference lay in speed
- Shift in problems
 - 20 years ago: difficult to access information
 - Now: too much information... which kills information
 - Key role of the medical librarian via electronic mail (or use of telephone in case of complex search)

ICT & Health Library: bibliometric evaluation

- Role of medical librarians (medical information scientists)
- To define new criteria
 - Reading factor (MEDINFO, 2001)
- Use of specific software
 - Web of Science
 - SIGAPS (relative impact factor)
 - Personal Impact Factor
 - Key criterion to promote academicians, labs, universities
- Adapt these criteria to the Web
 - Web Impact Factor

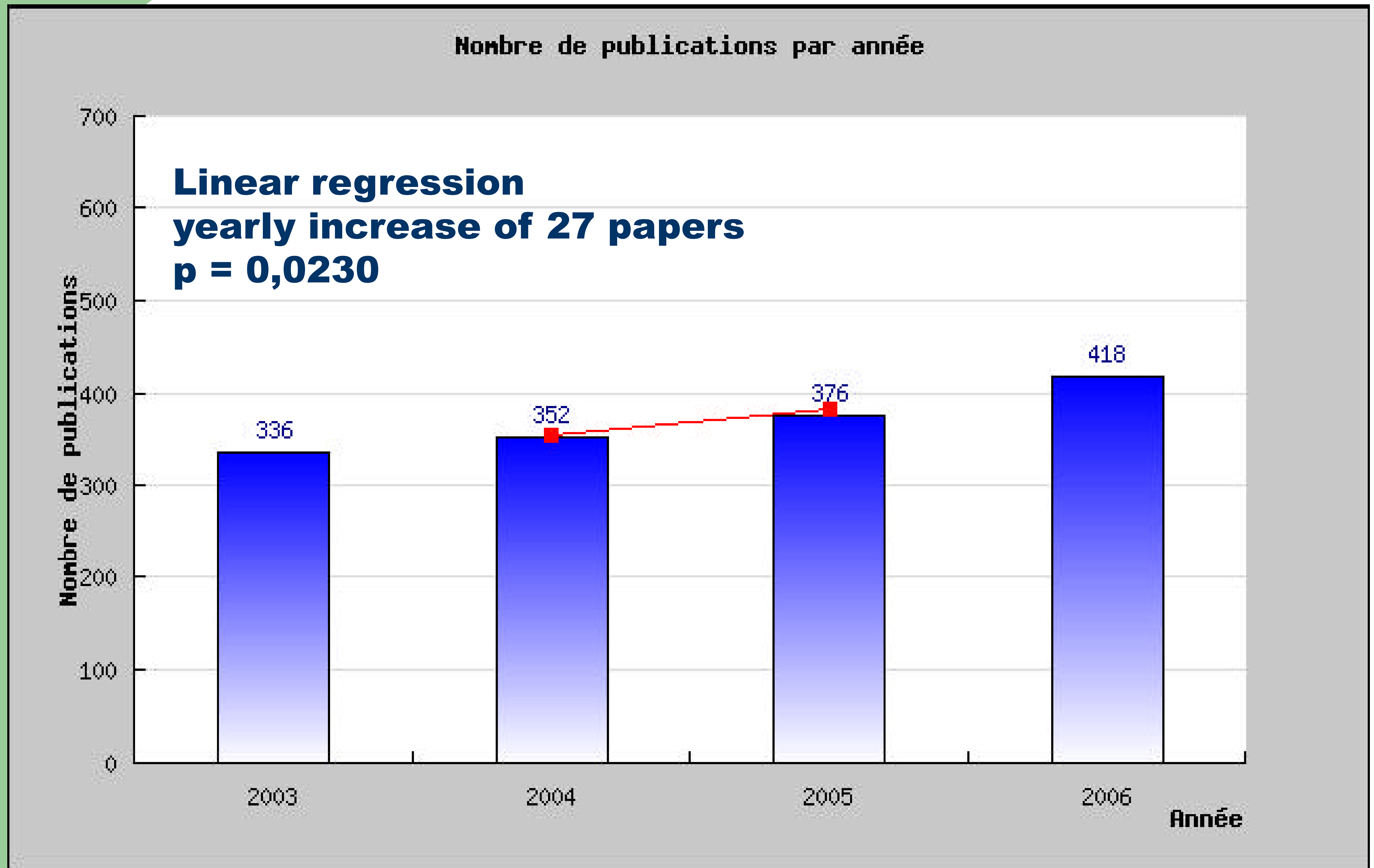
Bibliometric evaluation

Six level scale based on Impact Factor



- IF varies from one medical discipline to an other one
 - Medical Informatics, 0.431 to 2.091 (médiane=0.808)
 - Cell Biology, 0.25 to 29.2 (médiane=2.188)
- Classification **per discipline**, in 5 categories (A à E)
- Sixth category for journals not indexed by ISI

Total 1482



1211 MEDLINE Rouen[Affiliation] entre 2003 & 2006

Reading Factor, a new bibliometric criterion relying upon the consultation of articles

$$\mathbf{RF} = \frac{\text{consultations of a given journal}}{\text{consultations of a mean journal}^*}$$

$$RF_j = \frac{C_j}{\frac{\sum C_j}{N}}$$

*calculated by dividing the total number of electronic accesses by the number of journals in the database

Example for Lancet

Number of clicks (Lancet) = $C_{\text{Lancet}} = 901$

Total number of electronic accesses = 8,280

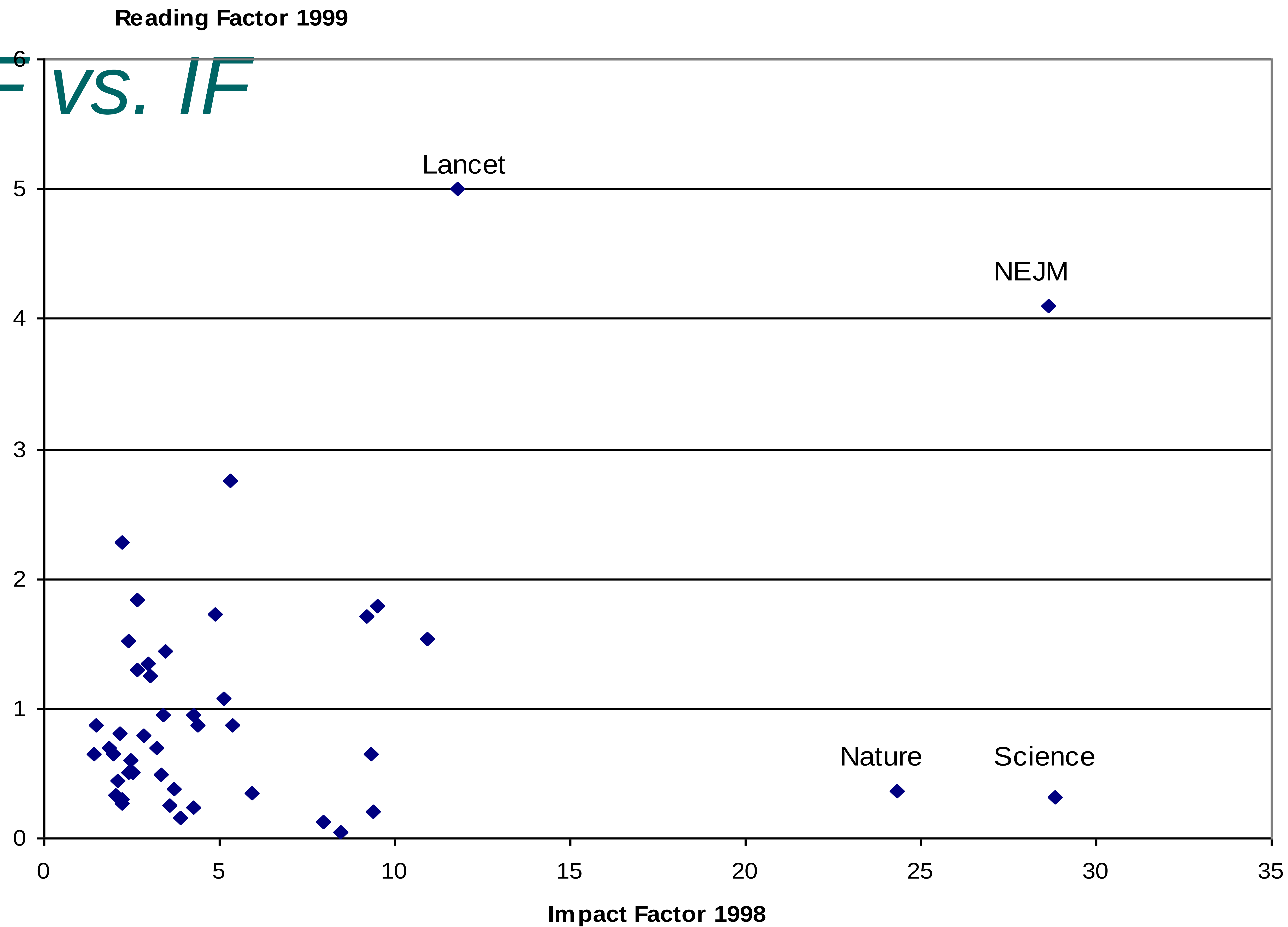
Total of journals = 45

$RF(\text{Lancet}) = 901 / (8280/45) = 4.90$

RF: Top 10

	RF 1999	IF 1998
Lancet	4.90	11.793
New England Journal of Medicine	4.01	28.66
JAMA	1.74	9.522
Journal of Urology	1.80	2.685
Circulation	1.67	9.173
Chest	2.23	2.246
British Medical Journal	2.69	5.325
British Journal of Surgery	1.49	2.381
Annals of Internal Medicine	1.50	10.900
British Journal of Surgery	1.49	2.381

RF vs. IF



Web Impact Factor

- WIF (Ingwersen 1998; Journal of Documentation)
- absolute WIF: nb of external pages pointing to the site
- Relative WIF: $aWIF/nb$ of pages including in the search engine
- used in ranking algorithms of search engines such as Google
- New criterion: ranking of the Web site in the world
 - www.alexa.com
 - Ranking per country
 - Comparison with competitive Web site

Example of a Modern Health Library

- Do not be too conservative
 - Only paper NO
 - Only electronic NO or TOO SOON
 - Electronic AND paper
- Health librarian is moving fast
- Only the best will « survive »
- To provide new services
 - Be innovative
- Do not systematically surf on all the brand-new technologies
- Collaborate with medical informaticians

ICT & Health Library: training for students and health professionals

- Key role for medical librarians
- Bibliographic databases (MEDLINE via PubMed)
- Search tools (Google)
- Specific tools in various countries, in several language
- Web 2.0
- Be innovative in teaching using ICT
 - Develop e-teaching modules with powerpoint + sound +/- images and video
 - 15 hours available for all the French-speaking medical students and medical librarians
 - Possible source of money:

ICT & Health Library: training for medical librarians

- Create a double cursus & double competency
- Health librarians need to closely cooperate with (medical) informaticians (computer scientists)
 - Prerequisite for any project

Be innovative... the CISMeF experience

- CISMeF = Catalog & Index of Health Internet resources on the Internet
- Collaboration of a medical librarian (B. Thirion) and a medical informatician (SJ. Darmoni)
 - One key to success +++
- Work hard, time consuming
 - In 1997, French Ministry of Health...
- Find your niche

ICT & Health Library: collaboration

Do not reinvent the wheel

Example of the Japanese Institute of Public Health

- NIPH wants to develop a simili-CISMeF in Japanese
- Collaboration of a medical librarian (M. Ono) and a medical public health specialist (M. Ogata)
- First trip in March 2006 in France
- Second trip in March 2007 in Japan
- Third trip in November 2007 in France
 - Specifications of the project

ICT & Health Library: business perspectives

- To develop CISMeF = 4 medical librarians
- Only one paid by the RUH
- To find other sources of €€€
 - French and European Calls of R&D
 - Medical Librarian Services
 - Cancer Info Service
 - Content Syndication
 - Public sector (UMVF, HAS, INCA)
 - Private sector (Vidal, pharmaceutical companies)
- 1/4 of my time

ICT & Health Library: conclusion

- Digital libraries = oxymoron
 - Workshop in the US NLM
- Call 7th Framework Program +++
 - EAHIL Key role to become a partner in this call