CISMeF-*patient:* a French counterpart to MEDLINE*plus*

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INTRODUCTION

Currently, the Internet can be considered a major source of scientific and health information. For health care professionals and health consumers, accessing accurate information on the Internet is not straightforward; therefore, there are myriad directories and search engines available in this new medium.

The objective of Catalog and Index of French-speaking Health Resources (CISMeF) is to assist health professionals and lay people during their searches for electronic information available on the Internet [1]. CISMeF* is a project that began in February 1995, initiated by Rouen University Hospital (RUH). CISMeF has three priorities: evidence-based medicine for health care professionals, teaching material for students, and patient information. Recently, patients and the general public have found valuable and reliable health information readily at their disposal in French, especially from Canada.

CISMeF-*patient* (Figure 1) is the French counterpart to MEDLINE*plus* [2], which was introduced by the National Library of Medicine (NLM), Maryland, in October 1998.† MEDLINE*plus* and CISMeF-*patient* are dedicated Websites for patients, their families, and the general public. CISMeF-*patient*‡ has been under development since 1997. MEDLINE*plus* and CISMeF-*patient* have both been created as responses to a growing need for consumer health information [3] and to extend awareness of quality health information resources available on the Internet.

CISMEF-*PATIENT* STRUCTURE

Like CISMeF [4], CISMeF-*patient* uses two standard tools for organizing information: the Medical Subject Headings (MeSH) thesaurus and the Dublin Core metadata format [5]. To index health resources, CISMeF uses four semantic levels: (1) CISMeF "meta-term," (2) MeSH heading, (3) MeSH subheading, and (4) CISMeF resource type. Levels 1 and 4 are specific to CISMeF, whereas levels 2 and 3 use the MeSH structure.

The CISMeF meta-term [6] is generally a medical specialty or a biological science (e.g., cardiology or bacteriology). These medical specialties are in most cases MeSH terms. The idea of the meta-term was established to cope with the relatively restrictive nature of these MeSH terms when searching, for example, "guidelines in cardiology" or "databases in virology" where cardiology and virology are meta-terms and guideline and databases are resource types. The meta-terms have semantic links with the three other semantic levels: MeSH term, qualifier, and resource type.

Resource type is an expanded model of the publication type in MEDLINE. Some types specific to the resources available on the Internet have been added (e.g., association, patient information, and community networks). Resource types describe the nature of resources, and MeSH terms describe the subjects of resources.§ This list is a hierarchical thesaurus. Therefore, as MeSH terms or qualifiers, resource types can be exploded.
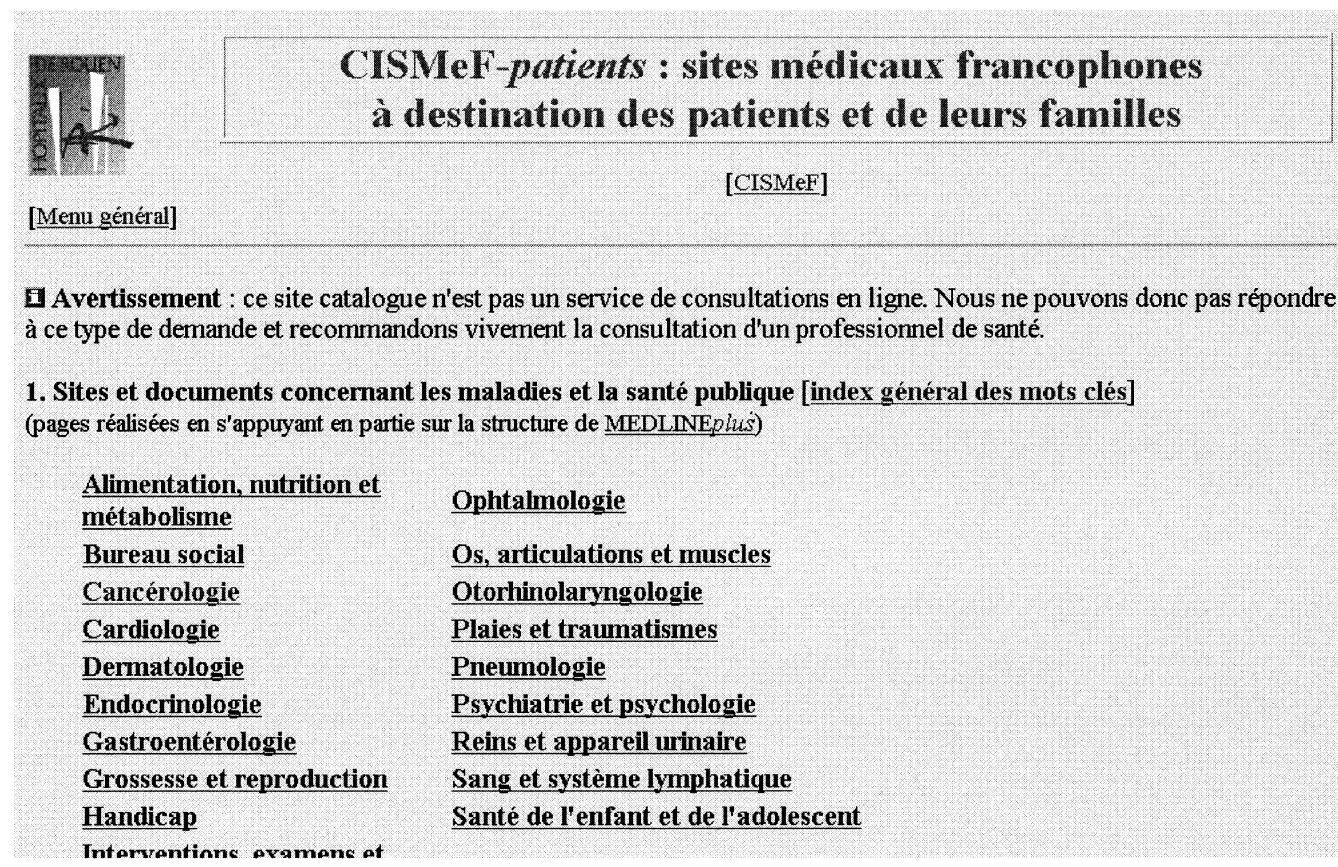

Figure 1
Home page of CISMeF-*patient*

CISMEF-*PATIENT* CONTENT

The content of CISMeF-*patient* is similar to that of MEDLINE*plus*. It includes 230 documents particularly written for patients by health care professionals from major institutions or medical societies. Six hundred and thirty eight Websites of patient associations are also included.

However, this model is often quite difficult to understand for nonprofessionals. Therefore, searching for information on CISMeF using this complex model should be simplified to be made more readily accessible. Some specific approaches designed for CISMeF-*patient* were inspired by MEDLINE*plus,* such as a thematic index, a list of medical specialties, and, for each specialty, an alphabetic list of topics (450 for MEDLINE*plus* and 190 for CISMeF-*patient*). Developed by MEDLINE*plus* and later on by CISMeF-*patient,* one possible solution is to simplify the information search by finding synonyms of medical terms easily understood by consumer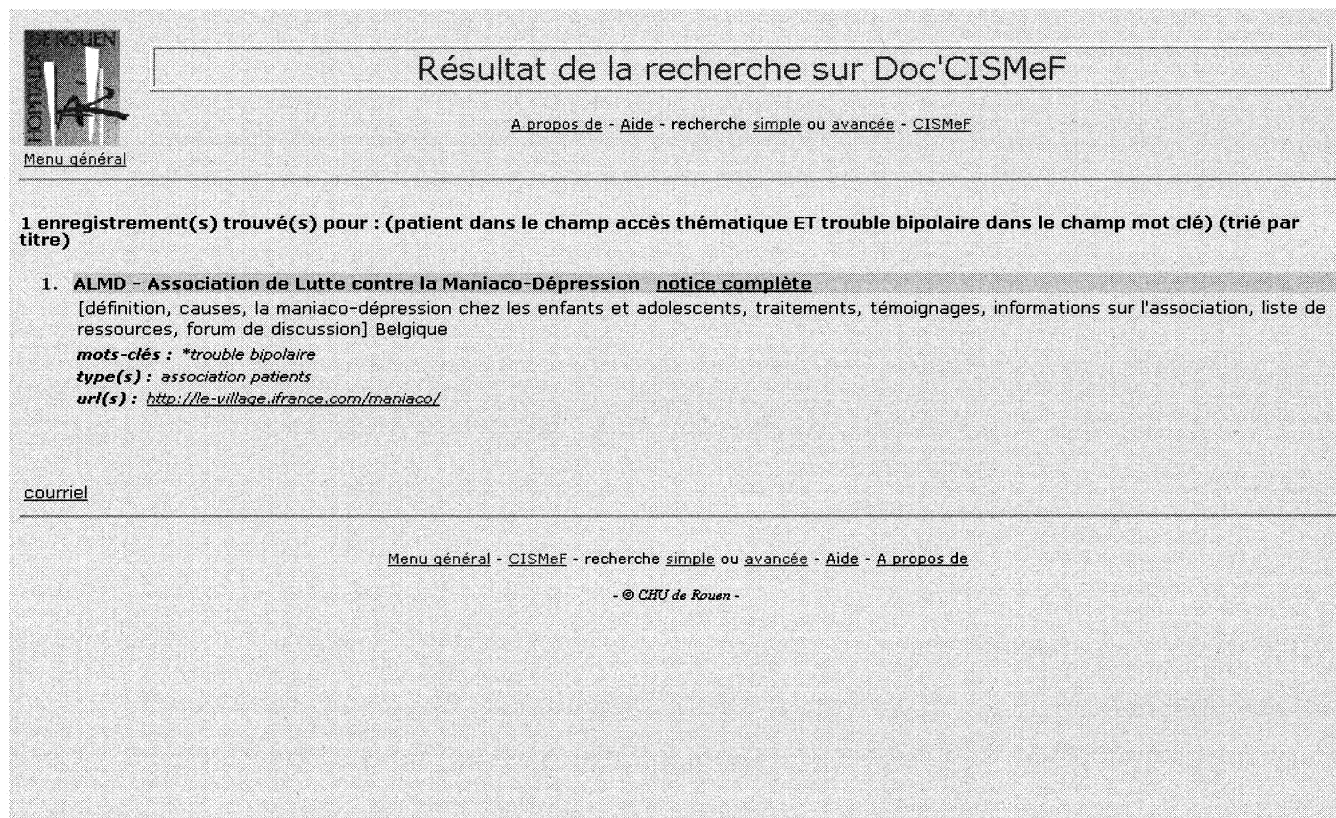s, such as ''mania'' instead of the MeSH term ''bipolar disorders'' (Figure 2). A general index of all terms used in CISMeF-*patient* is also available.**

Furthermore, CISMeF-*patient* also uses a different approach than MEDLINE*plus*: CISMeF-*patient* shares the same information structure model (ontology) with CISMeF and Doc'CISMeF for indexing resources, whereas MEDLINE*plus* and MEDLINE do not. Nevertheless, MEDLINE*plus* health topics were manually mapped to the Unified Medical Language System (UMLS) metathesaurus.

Instead of a list of resources for each health topic automatically generated from an Oracle database in MEDLINE*plus,* medical librarians of the CISMeF-*patient* team have created a preformatted request on Doc'CISMeF, the CISMeF search tool [7]. For example, for the topic mania, which consumers can click, the Doc'CISMeF request is: patient [meta-term] AND bipolar disorder [MeSH term]. CISMeF-*patient* end users

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** The general index of all terms used in CISMeF-*patient* may be viewed at http://www.chu-rouen.fr/ssf/patient/indexgeneral.html.

Figure 2
Results with the term "mania"

simply click on a term and do not need to know either the MeSH terms or the Doc'CISMeF search tool.

The meta-term "patient" has semantic links with MeSH terms or resource types that have been exploded in the previous request. The MeSH terms are: "duty to warn," "informed consent," "patient acceptance of health care," "patient advocacy," "patient education," "physician-patient relations," "self-help groups," and "visitors to patients." The resource types are: "hotline," "newsgroup and discussion list for patients," "patient associations," and "patient information." A total of 758 resources are indexed with one of these MeSH terms or resource types in the CISMeF-*patient* catalog. Therefore, they are retrievable when searching with the meta-term patient.

The medical speciality with the most content in CISMeF-*patient* is oncology (Figure 3). To index resources on this topic, CISMeF-*patient* has a partnership with the National League for the Fight Against Cancer (LNCC), one of the major patient associations in France. The objective of this partnership is to index oncology resources from LNCC and to enhance the information watch from other major institutions.
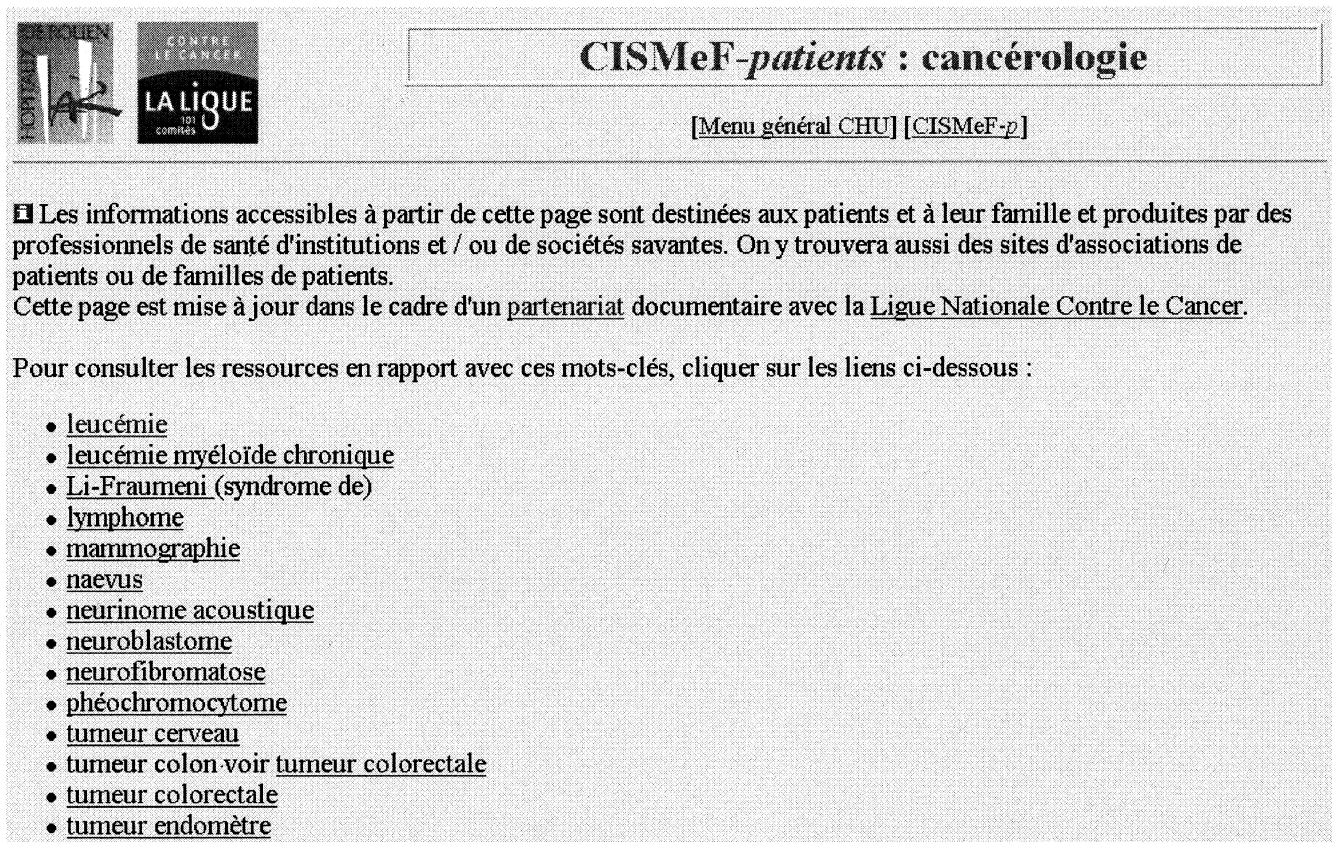
LNCC medical librarians work in close cooperation with the CISMeF team to find synonyms more easily understood by patients. Finally, in the near future, LNCC medical librarians will train patients coming to the new LNCC digital library where they will be able to search health information using the CISMeF-*patient* catalog.

DISCUSSION

The first resource to be included in CISMeF with patients and lay people as a main target was in 1997, therefore, one year before MEDLINE*plus* [8]. However, various CISMeF-*patient* functionalities were inspired by the latest catalog, in particular, a list of medical specialties and topics understood by the general public. Furthermore, the CISMeF team did not launch a pilot project to learn about the role of public libraries in providing health information to the public, as was done in October 1998 by the NLM [9].

The CISMeF research team (4 medical librarians and 2 medical informaticians) reached a difficult consensus regarding the generic preformatted request on

Figure 3
Oncology page of CISMeF-*patient*

CISMeF-*patients* : cancérologie

[Menu général CHU] [CISMeF-*p*]

◘ Les informations accessibles à partir de cette page sont destinées aux patients et à leur famille et produites par des professionnels de santé d'institutions et / ou de sociétés savantes. On y trouvera aussi des sites d'associations de patients ou de familles de patients.
Cette page est mise à jour dans le cadre d'un partenariat documentaire avec la Ligue Nationale Contre le Cancer.

Pour consulter les ressources en rapport avec ces mots-clés, cliquer sur les liens ci-dessous :

- leucémie
- leucémie myéloïde chronique
- Li-Fraumeni (syndrome de)
- lymphome
- mammographie
- naevus
- neurinome acoustique
- neuroblastome
- neurofibromatose
- phéochromocytome
- tumeur cerveau
- tumeur colon·voir tumeur colorectale
- tumeur colorectale
- tumeur endomètre

Doc'CISMeF. The choice was between a large but cluttered request using the meta-term patient or a more precise and narrow request with fewer options limiting the request to the two major resource types: patient information and patient associations.

The main difference between CISMeF-*patient* and MEDLINE*plus* is related to the information model. CISMeF-*patient* shares the same information structure model with CISMeF and Doc'CISMeF for indexing resources. MEDLINE*plus* and MEDLINE do not. However, CISMeF-*patient* uses a different approach than CISMeF to retrieve information: one for patients and one for students or health care professionals. Nonetheless, any patient wishing to have additional information, in particular, educational material or guidelines about a disease, can use Doc'CISMeF with the following generic request: disease [MeSH term] AND (educational material [resource type] OR guidelines [resource type]). Better use of this search tool should be obtained after training by LNCC medical librarians.

There is another difference between MEDLINE*plus* and CISMeF-*patient*: MEDLINE*plus* is bilingual (English and Spanish) and CISMeF is monolingual (only French), although Doc'CISMeF accepts MeSH requests in French and English. Two main health catalogs devoted to health care professionals allow MeSH searches in six languages: Health On the Net in Switzerland†† and CliniWeb in the United States.‡‡

The next step of the CISMeF-*patient* project will be its evaluation using patients, families, and lay people who come to the LNCC searching for health information at the medical library. This evaluation has been scheduled for the first semester of 2002 with a routine questionnaire in the LNCC data center. The main objective of this evaluation will be measuring the Doc'CISMeF information retrieval success rate when users perform individual searches or are "infomediated" by medical librarians. As previously demonstrated at the Patient Internet Café of the Rouen University

†† The Health On the Net Website may be viewed at http://www.hon.ch.
‡‡ CliniWeb International may be viewed at http://www.ohsu.edu/cliniweb/.

Hospital [10], infomediation by trained staff should be a key element to its success.

In conclusion, CISMeF-*patient* is a dedicated health catalog for French-speaking patients, their families, and nonprofessionals. The CISMeF-*patient* project was greatly inspired by MEDLINE*plus.*

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§§ The Website for the Educnet program may be viewed at http://www.educnet.education.fr/res/bprojets.htm.