

French MeSH Browser: a cross-language tool to access MEDLINE/PubMed

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Abstract

When searching the medical literature, health professionals and lay people strongly prefer to use their native language. Therefore, Medical Subject Headings (MeSH[®]) translations would be helpful to those who are not fluent in English to access scientific papers indexed in the MEDLINE[®] bibliographic database. Furthermore, medical terminologies such as MeSH are challenging in any language [1]. In this context, a French MeSH Browser was developed.

Materials and Methods

In 2004, the French MeSH Browser (FMB) was first designed to help medical librarians find information on MeSH terms both in French and English. Subsequently, this service freely available on the Internet (<http://www.chu-rouen.fr/terminologiecismef/>) became popular among health professionals and lay people alike. FMB features were largely inspired by the MeSH Browser (<http://www.nlm.nih.gov/mesh/2007/MBrowser.html>) developed by the U. S. National Library of Medicine.

FMB queries may be entered either in French or in English. The query is not translated but the system searches the terminology database for matches both in French and in English. Right and left truncations are enforced so that, for example, a query on “nephrit” will return (among others) the MeSH main heading “glomerulonephritis”. This is a strategy meant to increase the recall of the system. Once a query is processed, description pages are accessible for the terms retrieved. Each description page contains information on the term presented in three tabs. The “description” tab provides institutional definitions of the term both in French and English as well as other data. The “navigation” tab shows the position of the term in the relevant MeSH hierarchies. The “document access” tab offers customized search options for the term. Allowable qualifiers (for main headings only) or CISMef resource types (guidelines, teaching document, patient handouts) may be selected to retrieve documents in French from CISMef (Online Catalog and Index of Health Resources in French; <http://www.cismef.org/>) or in English from MEDLINE. For example, this tool enables users to retrieve all the scientific articles about the guidelines for the diagnostic of asthma with a French query that will be mapped to English to launch a PubMed search.

To enhance the FMB, over 6,000 French synonyms and acronyms were created and are regularly validated by the French

MEDLARS Center. Some synonyms are tagged as specific to health consumers (e.g. ‘tabagisme passif’ is a consumer health synonym for the MeSH main heading “pollution fumée tabac” or “tobacco smoke pollution” in English). Over 4,500 scope notes have already been translated into French. Term definitions in French provided by institutions such as the Swiss Cancer Ligue or the Canadian Cancer Society have also been integrated (n=2,170).

Technically, the service is written in PHP and relies on a MySQL database. The Sablotron XSLT Processor is used to parse U.S. MeSH data.

Results and Discussion

FMB was implemented in 2004. In March 2007, it has been accessed by an average of 4,500 machines per working day. Most of the feedback e-mails are coming from medical librarians. In future work, we are planning to develop a Spanish/English version of the tool presented here in collaboration with UNAM, Mexico. In the near future, thanks to the VUMeF consortium (extension of the French in the UMLS metathesaurus), the FMB will also include the following medical terminologies: ICD-10, SNOMED and CCAM (French equivalent to the U. S. Current Procedural Terminology). For queries using the MeSH thesaurus, the FMB is more powerful than BabelMeSH (<http://babelmesh.nlm.nih.gov/>) [1] because of its truncation feature, the add-on of 6,000 synonyms in French, and the fact that it retrieves terms both in French and English. BabelMeSH can perform cross language retrieval in nine languages but for any query, a specific language must be selected. Nonetheless, BabelMeSH is able to translate in French any query outside the MeSH thesaurus. Collaboration with the French private company Memodata will address the development of a similar feature. In conclusion, the French MeSH Browser provides an easy access to MEDLINE for health professionals and lay persons whose native language is French.

Reference

- [1] Liu F. et al. BabelMeSH: Development of a cross-language tool for MEDLINE/PubMed. AMIA 2006; 1012.

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