

# A Quality-Controlled Health Gateway to disseminate French pre-Residency Examination Program teaching resources on the Internet

Stefan J. DARMONI <sup>a,b</sup>, Benoit THIRION <sup>a</sup>, Magaly DOUYERE <sup>a</sup>,  
Badisse DAHAMNA <sup>a</sup>, Jacques WEBER <sup>a</sup>

<sup>a</sup> CISMef, Rouen University Hospital, France & L@STICS, Rouen Medical School, France

<sup>b</sup> Perception System Information Lab, FRE 2645, CNRS, INSA Rouen & Rouen University, France

## Abstract

**Background:** The Internet has become a major source of health information for medical students. Access to accurate and quality-controlled information on the Internet is not an easy task. **Objective:** In 2004, a New French Pre-Residency Examination (NFPRE) will be compulsory for all medical students in the 6<sup>th</sup> year of the curriculum. The goal of this study is to evaluate the quality-controlled health gateway CISMef as a tool to provide teaching resources available on the Internet covering NFPRE material. **Results:** the CISMef module for the New French Pre-Residency Examination is efficient as it already covers 95.7% of the program with a precision of 82.2%. **Conclusion:** This tool should be useful for French medical students.

Access to accurate information on the Internet is not an easy task. Therefore, there is a need to develop quality-controlled health subject gateways to disseminate relevant health information. The objective of CISMef (French acronym for Catalogue and Index of health resources in French) is to describe and index the main health resources in French.

In 2004, a New French Pre-Residency Examination (NFPRE) will be compulsory for all French medical students in the 6<sup>th</sup> year of the curriculum. The material covered by the NFPRE includes 345 questions such as 'question 3: reasoning and decision in medicine. Evidence-based medicine. Therapeutic hazard' and 'question 57: Arthrosis'.

The goal of this study is to evaluate CISMef as a tool to provide French medical students with reliable teaching resources available on the Internet covering NFPRE material. This study is conducted under the French Medical Virtual University (FMVU) consortium umbrella (URL: <http://www.umvf.org>).

To help medical students of the FMVU consortium to retrieve teaching resources, the CISMef team developed in July and August 2002 a CISMef module (URL: <http://doccismef.chu-rouen.fr/servlets/Internat>) for the New French pre-Residency Examination (NFRPE). The main objective of the (above mentioned) CISMef module is to automatically map the 2,800

teaching resources in French that were previously described and indexed in CISMef to any question of the NFRPE program, optimizing the retrieval of quality-controlled teaching resources. These teaching resources are mainly produced by medical schools and medical teaching societies. The automatic mapping is based on manual queries elaborated by the CISMef chief medical librarian. Most of the request are almost impossible to build for medical students.

Within a classical framework of evaluation, we attempt to find the relevant resources covering NFRPE questions. A medical teacher of the CISMef team (SJD), who did not participate in the creation of the requests, evaluated the true positive rate of the CISMef module in August 2003.

The coverage of the CISMef module which measures the number of NFRPE questions covered by at least one resource in CISMef is 94.2% (325/345) (93.6% if taking into account only the true positives). Although the first examination will be held in June 2004, the coverage of the questions specifically devoted to the NFRPE is only 68.1% (235/345). The coverage of the resources indexed in CISMef covering question material, which are not teaching resources is 98.6%. But the average number of answers per question ( $22.6 \pm 41.2$ ) is also too important and too noisy. Therefore, this extended request should be limited to the questions that cannot be answered with the generic request.

To measure the precision of the CISMef module, we have used the following formula:  $(\text{Number of relevant resources} - \text{number of teaching resources specifically written for the NFRPE}) / (\text{number of overall resources} - \text{number of teaching resources specifically written for the NFRPE})$ . Then, the precision of the CISMef module is  $(1,801 - 554) / (2,070 - 554) = 82.2\%$  and the noise is 17.8%. Nonetheless, based on these results, some refinements were added on specific requests to reduce an outstandingly high noise.

As a conclusion, the CISMef module for the new French pre-residency examination is efficient as it already covers 95.7% of the program and the precision is 82.2%. This tool should be useful for French medical students.