

## Double Life of Medical Journals: Dr Paper and Mr Web

Scientific journals of today are indeed split between two forms of existence: paper and electronic. Although many are foreseeing the end of the paper journals (1,2), we believe that the future of scientific journals will see the evolution of paper and electronic form as two complementary systems of communication in science and medicine. Freely available digital information and the speed of searching the global repositories of scientific knowledge are great assets and now an indispensable part of research and medical practice (3). Electronic dissemination of information and scientific results is particularly important for small and developing scientific communities, such as the one in Croatia (4). We were aware of this very early in the life of the *Croatian Medical Journal (CMJ)* and have tried to ride the tide of electronic revolution. Now is the time to master a few new elements of electronic publishing. So far, we have had to master tagging of the bibliographical information in the language that allows full search on the PubMed. After we accepted the mandate to send data in such a format to the PubMed, and systematically implemented XML to our journal, thanks to the grant from the Croatian Ministry of Science. We also shared our experience with editors and researchers in Croatia, as the part of our educational activities (5). We also successfully linked all PubMed entries to the full text of the articles published in the *CMJ*, meaning that now the reader can obtain a full-text article from the *CMJ* just by click-

ing on the icon to the left of the PubMed reference. Most recently, we have subscribed to the Google Analytical Service to monitor activities on our website for free. The data collected for the last two months (Table 1) show that most of our web-visitors access the Journal's website directly by typing in the home-page address. Many access it also through Google, Yahoo, FreeMedicalJournals.com (website dedicated to the promotion of free access to medical journals over the Internet), and EBSCO (library service providing link and coverage information to more than 99 000 titles). The statistics for the last two months shows that about 45% of visitors are the returning visitors and come from all over the world, but mostly from Europe.

For a small journal and small scientific community, we have achieved good international visibility, but we still have some electronic leaps to make toward better service to our readers and authors.

### Digital archiving in PubMed Central

To further increase the visibility and improve global archiving of the Journal, we are negotiating the inclusion of the *CMJ* to the PubMed Central, a free digital archive of biomedical and life sciences journal literature (<http://www.pubmedcentral.com/>). An important step toward this goal was the purchase of eXtyle, a Microsoft-based editorial and XLM production soft-

**Table 1.** Search engines bringing visitors to the website of the *Croatian Medical Journal* ([www.cmj.hr](http://www.cmj.hr))\* in December 2005 and January 2006 (report from Google Analytics Service)

| December 2005             | No. of hits per month | January 2006              | No. of hits per month |
|---------------------------|-----------------------|---------------------------|-----------------------|
| direct visits             | 1530                  | direct visits             | 1565                  |
| Google                    | 459                   | Google                    | 522                   |
| mef.hr                    | 105                   | Yahoo                     | 94                    |
| Yahoo                     | 84                    | freemedicaljournals.com   | 57                    |
| monitor.hr                | 79                    | mef.hr                    | 57                    |
| freemedicaljournals.com   | 45                    | hcjz.hr                   | 32                    |
| .hr (any Croatian domain) | 29                    | plivamed.net              | 27                    |
| plivamed.net              | 25                    | medicinskanaklada.hr      | 26                    |
| medicinskanaklada.hr      | 22                    | atoz.ebsco.com            | 23                    |
| atoz.ebsco.com            | 19                    | .hr (any Croatian domain) | 22                    |
| Total                     | 2878                  | Total                     | 3029                  |

\*The analysis includes visits to the home page of the Journal and not to individual articles, as is the case with referrals from the PubMed.

ware. The authors will not notice that we use this system in their communication with the editorial office, but the readers will see the benefit (one of the many) already in this issue. References to the publications indexed in PubMed will be directly linked, so that a click on the PubMed Identifier (PMID) after the reference in the PDF file will lead to the data entry in the PubMed. This feature also ensures that the citation is correct and checked against PubMed. Another important change: from this volume, the electronic version of the journal (ISSN 1332-8166) will be the version indexed by MEDLINE. This is important information to the authors because all web supplements will also be processed for indexing.

### Development of CMJ website

With the generation of the full text in XML format, we will be able to improve our website and offer better service to the readers. We will closely follow the activities on our website and listen to the comments and suggestions of our readers and authors. Restructuring of the CMJ website is under way, and we expect to come out with a new digital face sometime this year.

### Electronic submission and peer review

The third electronic leap, perhaps most important for our authors and reviewers, is the introduction of the electronic submission and peer review system. We have been thinking about this

for a long time, but not only because we want to follow the current trend of switching to electronic-only editorial workflow. In the past couple of years, the submissions to the journal increased by a third, from 273 articles in 2003 and 279 in 2004 to 364 articles in 2005. Our old paper-and-folder method of keeping manuscript records worked well while we were managing less than 200 articles per year. The moment we exceeded this submission rate, it became very difficult to keep track of things, especially the review process, which often includes three extramural reviewers and a statistical review. Last year, when the number of submissions exceeded 300, this became almost impossible. Also, we learned that e-mail communication with the authors and reviewers quickened the review process, even when we had to contact colleagues from the developing world. They told us that regular mail was often a greater problem for them and that electronic communication, albeit sometimes frustrating and slow, was more efficient (and cheaper) than surface mail.

We carefully studied the analysis and experiences of publishers, editors, and authors with ten most common online submission and peer review systems (6), and eventually decided to use a Croatian product: electronic journal management system developed by our colleagues at the Faculty of Electrical Engineering and Computing of the Zagreb University for the *Journal of Computing and Information Technology* (7). We made this choice because Professor Sven Lončarić, Edi-

tor-in-Chief of the *Journal of Computing and Information Technology*, and his colleagues from the Image Processing Group at the Faculty of Electrical Engineering and Computing kindly offered to customize the system to our needs and specificities of our review process. The last few months were very difficult for us, as we had to learn about the system, carefully study its web interface, and identify the changes needed for the *CMJ*'s model of manuscript processing and reviewing – all that in addition to usual everyday editorial work-load. We plan to implement the online submission system in very near future. We advise the authors to consult the *CMJ*'s web page ([www.cmj.hr](http://www.cmj.hr)) for information and instructions before they submit their manuscript to the Journal. After we switch to the online manuscript submission system, paper submission will not be possible any more and sending a manuscript by regular mail will certainly delay the review process. We are aware that this will not be an easy transition to make and that we will surely experience many “teething” problems, as reported by other journals (8). However, we are certain that we will be able to provide better service to our authors, reviewers, and readers. We expect to shorten the editorial processing and decision making time, so that the final product is a timely and relevant publication.

Finally, we come back to the question at the beginning of this editorial – is Mr Web gaining the upper hand over Dr Paper? Is it time to say “The king is dead, long live the king!”? Definitely not! Paper still seems to be the best medium for preserving information (9), and Dr Paper will surely have a secure future in the publishing kingdom. Mr Web will be a major player in the

global democratic exchange of information. The *CMJ* has made important electronic steps toward this global information flow. At the same time, we care just as much for the paper edition of the journal, which – as the readers may notice – has a new design to match our development and growth. To make right steps into the future, we also have to hear from you – readers, authors, and reviewers of the *CMJ*.

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