

# Still Moving Toward a Paperless Environment?

Scott E. Walker

With war in Iraq now in progress, all other concerns seem trivial. Nevertheless, CSHP and its Journal have several significant financial decisions to make in the coming years, and I would like to share with you some of the considerations that will go into these decisions.

About 4 years ago, Harold Varmus, then director of the US National Institutes of Health, proposed that “E-biomed” be developed as a single Web site that would accept papers in every area of biomedicine and provide free access to the full text to all readers.<sup>1</sup> This proposal suggested the end of hard-copy printed journals, a prospect that frightened some journal publishers and drew negative comments,<sup>2</sup> but to the growing number of Internet users it appeared to be a positive step.<sup>3,4</sup> There would be no more need to laboriously review printed copies of *Index Medicus* and hunt down an elusive article, which — if it was not out on loan, at the bindery, or even missing — would have to be copied, a process that often hinged on whether the binding would flatten sufficiently to allow you to read the copied text.<sup>5</sup> With E-biomed, all you had to do was wait patiently as your computer downloaded the file, apparently free of charge.

An independent initiative has now been established to provide free access to reports of original research in the life sciences. BioMed Central (<http://www.biomedcentral.com/>) currently supports at least 110 biomedical journals, and virtually all specialty areas of medicine are covered by open-access journals. However, although there is a single nursing journal and journals related to both pharmacology and clinical pharmacology, none of the journals included in BioMed Central is specifically devoted to pharmacy.

But is this system really free, and does this model work for all readers and all journals? The answer to both these questions is probably no, at least not right now.

First, BioMed Central is not really free. In addition to the staff costs associated with updating and maintaining a large database of this type, most of the participating journals have already adopted an “author pays” model, whereby an “article-processing fee” of US\$500 is payable by the author. On the user side, anyone can download the full text of any paper from any of these journals, in a variety of formats, free of charge, but institutions are asked to subscribe at the rate of US\$1550 per year or more, depending on number of faculty and graduate students.

Second, there are issues related to scope and journal function. As described above, not all biomedical disciplines are represented by journals included in BioMed Central, and our own profession of pharmacy is affected by this situation. Furthermore, journals that publish society news as well as scientific research, such as *CJHP*, do not readily fit the BioMed Central model. However, neither does *CJHP* fit the model whereby journals are published by large publishing houses that profit from the publication of scientific papers, as is the case for BMJ Publishing Group, among others. Instead, *CJHP* exists as a member benefit, which has been used by Society members to disseminate and share information for more than 50 years.

The cost of this benefit is relatively low. Over the past 5 years, according to financial statements presented at each year’s annual general meeting, the cost to print *CJHP*, without consideration of advertising revenue, has averaged about \$12 per issue (\$60 per year) per CSHP member. At least half of this cost goes toward printing. When revenue from advertising is considered, *CJHP* has had a per-member cost, on average, of less than \$1 per issue (less than \$5 per year) over the past 5 years. Nevertheless, the Society is concerned about the cost of the journal and the declining trend in direct-to-pharmacist advertising and has therefore started to



consider other, more cost-effective methods of disseminating the information currently printed in the journal. One of these methods would be to publish *CJHP* electronically and eliminate printing altogether. However, given the uncertain ability to recoup any costs through advertising on a Web site, the figures currently available to us suggest that making *CJHP* an electronic-only journal would cost about \$6 per issue (about \$30 per year) per CSHP member, which is much more than the current net cost of less than \$5 per year per member for the printed Journal.

Where does this leave us? Should *CJHP* become an electronic-only journal? Again, the answer is probably no, at least not right now.

Over the past 3 years *CJHP* has posted portions of its scientific text on the CSHP Web site (<http://www.cshp.ca>), and this practice is increasing. While this may be a forward-looking move, if we were to publish *CJHP* only in electronic format, we could be giving up a number of subtle conveniences. The first is the permanence of the printed record. Publication on paper has preserved the scholarly record for more than 300 years, yet there is no assurance that electronic formats will preserve the content with full access "in perpetuity".<sup>6</sup> Second, most of us are incapable of reading, interpreting, and archiving literature completely on-screen. We often require a hard copy. The human condition is such that reading is often grounded in a physical object — the page of a journal or book — and this context is lost when we read online.<sup>7</sup> It takes a good deal of training and practice to read and synthesize information, as well as compose and edit information, entirely on screen. Therefore, while we are probably searching and finding a greater proportion of the information we seek online, synthesis is often done once the paper has been printed and reread off-line.

Third, who has the time at work to read all the papers of interest? Much of our reviewing and casual reading is done away from the computer screen.

So, are we moving toward a paperless environment? Here, the answer may be a tentative yes, but this movement itself is also tentative, and it will be a long time before paper journals, including the printed form of *CJHP*, disappear altogether.

## References

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**Scott E. Walker**, MScPhm, FCSHP, is Co-ordinator of Research and Quality Control in the Department of Pharmacy and the Division of Pharmacology at Sunnybrook and Women's College Health Sciences Centre and Associate Professor, Faculty of Pharmacy, University of Toronto, Toronto, Ontario. He is also the Editor of *CJHP*.

## Address correspondence to:

Scott E. Walker  
Department of Pharmacy  
Sunnybrook and Women's College Health Sciences Centre  
2075 Bayview Avenue  
Toronto ON  
M4N 3M5

**e-mail:** Scott.Walker@sw.ca

