

## OPINION ARTICLE

# Goodbye to Print Medical Journals?

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In the last 20 years medical journal publishers have increased subscription fees disproportionately and at a rate well above inflation.<sup>1-4</sup> These increases have been more marked for institutional than for individual subscriptions and, despite the fact that publication in electronic format has implied a considerable reduction in production and distribution costs, the savings have not been reflected in a reduction in subscription fees.<sup>5</sup>

Year after year hospital library budgets are typically frozen or even reduced. Large publishers, meanwhile, increase their leverage and so dominate a quasi-monopolistic market that is fruitful terrain for indiscriminate pricing practices.<sup>5</sup>

One way that hospital libraries endeavor to reduce their costs is to jointly negotiate electronic access with publishers for a specific batch of journals so as to obtain more favorable prices.

We recommend reading the articles listed in the references, and in particular, that by Hafner et al,<sup>1</sup> so as to better understand the ins and outs of the scientific publishing world.

One of the consequences of the increased cost of subscriptions is that many medical journals are no longer physically available in print format in hospital libraries but have been replaced by access to an electronic version available online.

Leaving aside the rather sad note implied by this trend, a number of thought-provoking questions are posed.

Medical journals have been and continue to be the main source of medical information, above and beyond consultations with colleagues, conferences, continuing professional development courses, and information provided by pharmaceutical representatives.<sup>2</sup> Physicians typically refer to medical journals for 2 basic reasons: to study new cases described by colleagues so as to be informed in advance should they have a patient with a particular disease in the future (prospective study), and to retrospectively study diagnoses, prognoses, and treatments for specific conditions affecting patients that they have already treated (retrospective study).

It is undeniable that the availability of electronic medical titles has represented a revolution in the area of retrospective studies, with important advantages with respect to the traditional print format (Table).

The electronic format may not, however, be so useful for prospective studies and may even, in fact, be detrimental.

A study published by Sathe et al<sup>6</sup> compared readership parameters for electronic and print scientific journals, concluding that electronic journals are browsed much less than print journals. In fact, whereas 32% of those who consulted print titles read the contents, only 6% of readers of electronic titles did so.

Readers browse through an electronic journal differently from a print journal. Reading an electronic abstract, for example, does not necessarily mean being able to directly access the illustrations. For browsing purposes, moreover, it is unusual for a reader to download and print all the articles in a journal, given the work and time required, not to mention the paper and ink costs.

Generally speaking, physicians glance through the abstracts of an electronic title and then print articles of interest. Rarely do they read the full text of an electronic article on screen.

Dermatology journals are different from other journals in a key aspect, which is that the photographs that usually accompany an article are at least as important as the text. Their quality is fundamental to presenting cases, and the physician needs not only to be able to visually relate the photographed lesions to the text but also to possibly recognize these lesions later in one of their patients. With the electronic format the reader views images on the computer screen—typically at a low resolution, as a higher resolution would require too many bytes and render the image unsuitable for downloading. The reader can also print the image in black and white at a low resolution; however, neither the electronic original nor the printer is likely to be of a standard that will result in a quality reproduction of the image.

In a print journal, however, photographs are immediately more accessible; thus, if an image shows a lesion that the physician recognizes while browsing (for example, for a patient who is still undiagnosed), then he or she is likely to go directly to the article in question.

Another advantage of the print title is that it often leads the reader to read articles other than those of immediate interest; thus, articles that may not originally have attracted

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**Table.** Advantages and Disadvantages of the Electronic Format

<i>Advantages of the Electronic Format</i>
– Access is simple (from home or other locations) and availability is almost instant at any time
– Complex searches are implemented more rapidly, accurately, and conveniently
– Specific information is more easily found (specific paragraphs)
– Several journals can be opened at a time
– No physical storage space (shelves and bookcases) is required
– References can be found and checked more rapidly and directly
– The same text can be accessed by more than one user at a time
– Access is independent of photocopying machines and libraries (except when access is confined to computer terminals belonging to the institution which pays for the subscription, such as hospitals, libraries, etc).
<i>Disadvantages of the Electronic Format</i>
– The reading convenience and portability of print is lacking (cannot be read when one has a moment to spare, cannot be taken on journeys etc unless printed out)
– Access is more complex for new users
– Some operations—such as turning pages—are slower
– Connection or interface problems affect accessibility
– On-screen reading is more tiring and less comfortable
– The quality of illustrations and photographs is less satisfactory
– Additional time is required for downloading and printing
– No savings are made on paper and ink costs if an article is printed (and more so if the entire journal is printed)
– Access to articles already paid for is restricted once a subscription is canceled.

the reader's attention may end up being read simply because they are in the same issue or volume (and may even prove more revealing than originally anticipated). This is very unlikely to occur with an electronic journal.

The fact that there are differences in the reading patterns for journals in the 2 formats lead us to think that the 2 approaches are complementary.<sup>7</sup> The electronic title may well be a powerful and useful tool, but the print title continues to be of most use for prospective study. In fact,

the print title continues to be the preferred format for a number of groups who have been surveyed about their preferences.<sup>2,4,7,8</sup>

If—as seems to be the case—there is a trend towards the disappearance of the print title, what is equally clear is that we need to consider other approaches to reading electronic journals. Otherwise we will miss out on one of the main advantages of scientific journals, namely the opportunity they provide for prospective study.

Perhaps we need to read electronic journals more exhaustively and not just download and print articles of interest. We should also ask publishers to upload better quality images—especially in dermatology journals where images are crucial.

Finally, it should be mentioned that some libraries in the USA have acknowledged their error and resubscribed to the print version of scientific journals that they had previously canceled.<sup>9</sup> In this respect, it would be a good idea to take note and learn from the errors and rectifications of others so as to avoid making the same mistakes.

### Conflicts of Interest

The authors declare no conflicts of interest.

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