Proposals for quality standards for electronic STM journals

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Over the last few years electronic versions of scholarly journals have become the pre-dominant access route to scientific articles for scientists in the academic and corporate environments. While the format of the basic content, the 'paper', still remains the same, the access and functionality of the electronic version can be highly variable. This is a continuous problem for users and librarians and more standardization is necessary in this field. A working group under the Pharma Documentation Ring (P-D-R) formed by information managers from pharmaceutical companies has produced a list of quality standards for electronic scientific, technical and medical (STM) journals that may meet the needs of all e-content customers.

Introduction: the importance of quality and standardization

The contents of scholarly journals, foremost the STM serials, have been and are still the primary and most important source for scientists both in the corporate world and in academia. In recent years, the access route to STM content switched from print to electronic. Most pharmaceutical companies established e-access for subscribed journals, with a strong movement to e-only, providing employees with electronic rather than print journal access.

With an estimated 25,000 peer-reviewed scholarly journals, there could potentially be thousands of individual access routes and content-providing platforms, very different from the highly standardized uniform process of distributing and consuming print journal contents.

Therefore, it is obvious that quality and standards for e-content and access to scholarly e-journals must be defined to ensure that end-users have simple, reliable and intuitive access to e-journals. The requirements described here are aimed at defining the necessary features, functionalities and uniform standards that will enable end-users easily to navigate all e-journal content.

Although these standards have been defined by a working group of information managers in the pharmaceutical industry, the P-D-R (Pharma Documentation Ring), they are believed to meet the requirements of all e-content customers in the corporate and academic environment.

Platform requirements

Today there are huge differences between the various platforms, although society titles and journals from smaller publishers may be hosted on a joint electronic platform.

End-users, whether in a corporate or academic setting, do not want to have to learn and memorize many different access routes. They want easy and intuitive access and navigation to the hosted content, and for the full-text content to then be available in the appropriate format.

Therefore, the journals platform should meet standards in terms of user interface *and* standards in terms of available features and functions.

The following 13 requirements define the core set of standards and functions for an e-journal platform. However, they are not only intended to define the needs and requirements of today but should also give an indication of what is needed in future to take full advantage of the scientific knowledge contained in scholarly journals.

1) The electronic platform that hosts the content of an e-journal must be designed to allow easy access and intuitive navigation. The most important elements of information must be shown on the homepage and all other relevant information should be available within not more than three clicks. Specific requirements are summarized in Table 1.

2) The journal web site must provide a search functionality including full-text searching that

Level 1 Main page Journal home page	Level 2 (one click from Level 1 page)	Level 3 (two clicks from Level 1 page)	Level 4 (three clicks from Level 1 page)
1. Journal/Book title, ISSN/ISBN and publisher	More details about the journals e.g. subscription, editorial/journal publisher home page, with full list of all titles produced by that publisher		
2. Current issue link (prominent)	Full table of contents for the current issue in page order. Links to articles abstr/HTML/PDF. File size of these articles should be indicated.	Full text of the requested article in whatever from requested i.e. HTML or PDF	
3. List of all available issues link (prominent)	List of issues by year, latest at the top of the page. Each issue to indicate start and end page number.	Specific issue table of contents. Links to abstr/HTML/PDF. File size of these articles should be indicated.	Full text of the requesed article in whatever form requested i.e. HTML or PDF
4. Link to accepted papers not yet 'published' (if publisher offers this)	List of articles accepted in chronological order, most recent at the top. Links to abstr/HTML/PDF. File size of these articles should be indicated.	Full text of the requested article in whatever form requested i.e. HTML or PDF	
5. A 'quick search' box to enable rapid location of items published in this title, or across all titles from this publisher	An expert search option to allow boolean, search by field, etc.		
6. Link for option to order table of contents e-mail alerts	Form for collecting requester's details e.g. e-mail address, and list of journal titles with check boxes		
7. Branding statement (i.e. Licensed for Company X)	Link back to IM Journal home page		
8. Administrators' link	List of admin functions (password protected) usage stats, IP management, subscribed titles list		
9. Publisher logo/branding not over dominant, or obstructing access to content			
10. Consistent use of terminology, e.g. browse, search, alerts (cf COUNTER definitions)			

Table 1. Platform requirements for vendors' e-journal web pages

allows the detection of the complete content. Browsing among the published issues must be easy; the tables of contents should provide information on the available file format, such as PDF or HTML, and they should include page numbers for identification of individual articles.

For each journal title, information has to be made available on which volumes (back-files) are licensed and thus which journal volumes and numbers are accessible by the user. This should be indicated not only on the journal web site but also on the publisher's complete title list.

3) Federated searches across publisher platforms should be supported as a future development. The P-D-R would support the involvement of aggregators for this service.

4) The journal web site must allow easy registration for electronic tables of contents, so that these can be delivered by e-mail to the subscriber as soon as the content is available at the publishers' platforms. E-mail alerts from newly published issues should have precise subject descriptions so that it is clear which journal is covered by that alert, and they should provide direct linking to the individual articles. Such links should comply with the OpenURL standard and the DOI number of the article should be included for easier retrieval if stored over time.

Electronic tables of contents have become a well used alternative to circulation of print journals and are essential in those institutions that have decided to go for e-only licences.

5) All articles should be available in PDF format and, if possible, additionally in HTML format. Licence-compliant usage must not be hindered by document rights management technology.

The P-D-R acknowledges document rights management as a legitimate interest of publishers and any copyright owner. Several providers have developed technical solutions during the last few years but unfortunately there is no internationally accepted standard available. Changing standards can cause severe problems for major, globally acting companies, as global roll-out of new software including plug-ins is not a simple task. Due to security reasons but also legal requirements, software updates have to be planned long term. Publishers must therefore

ensure that licence-compliant usage is not hindered by document rights management technologies.

6) All original content of the print version should be available in the online version, and hosted at the same web site, even for content with a different ISSN. Original content includes but is not limited to: all supplements (including proceedings and abstracts), editorials, and letters to the editors. If, for some reason, the publisher is not able to provide online access to such items, content must be delivered to the licensee in another format, e.g. on CD ROMs or through FTP download. Conference abstracts should not be posted as a single PDF file but each abstract should be individually accessible and linkable.

7) New issues should be available online on the same day as, or preferably earlier than, the paper issue is published.

8) The publisher must state when an article was accepted, first made public online and published in the final version. Dates of amendments must also be stated.

9) If articles are published online first or on a preprint server of a publisher, access to these articles must be enabled and also e-mail notifications of those contents must be provided.

10) If supplementary electronic material is published, access to these files must be provided, preferably through direct linking.

11) Options for purchasing individual articles must be provided for content that is not included in a licence.

12) Application of linking tools must be guaranteed, either by compatibility to OpenURL standards or CrossRef specifications.

13) A licensee branding statement and/or logo should appear on the journal home page, and on any page where articles can be downloaded. Ideally the branding text will be hyperlinked, providing the user with a navigation route back to the licensee's home 'Library' page.

Academic and corporate libraries offer access to journal content either by linking from databases or through the library OPAC. This aggregation is a highly appreciated service for the scientists, as they

prefer to have one interface to the content instead of multiple publishers' platforms. As the library is the primary point of contact for the users in an institution, branding is essential.

Availability requirements

For libraries, especially those who decided to go for the e-only solution, continuous, reliable and supported access to the subscribed journals is of the utmost importance. End-users depend on and expect 24/7 access to the contents. Customer satisfaction with a library is therefore based not only on platform specifications but also on the following five availability requirements:

14) In order to provide seamless access to the subscribed content, a hotline and a help desk should be available at least during the usual business hours in the countries in which the licensee has offices. A response is expected within four hours.

15) Changes of the platform that hosts the journal(s) contents must be communicated to the licensee at least two months in advance.

16) If a journal is moved to another publisher, the licensee has to be notified as soon as possible, and at least three months in advance of the move. Both publishers have to take care that uninterrupted access is maintained. Back-issues of the journal should be moved to the new publisher's site to avoid users having to navigate between the two platforms. If this is not immediately possible, back-issues should be kept accessible on the earlier platform until the move is completed. (See also ALPSP guideline: http://www.alpsp.org/socjourn1.pdf)

17) A grace period of at least two months should be available to secure uninterrupted access in case delays with payment or negotiations, especially through subscription agencies, occur. (See also ASA guideline: http://www. subscription-agents.org/news/egrace.html)

18) The licensee should be able to administer IP address changes directly. If this is not possible, the licensor will register the changes within one week of receiving the information from the licensee.

Usage statistics

In the electronic environment, portfolio management is substantially based on usage statistics. It is important that the publishers provide the licensee with reliable statistics.

The publisher must provide the licensee with systems that allow the monitoring of usage. Usage statistics must adhere to the specifications of the COUNTER Code of Practice[1]; to include data elements collected and their definitions, data processing guidelines, usage report content, format, frequency and delivery method.

We intend these quality standards to be a minimum requirement for electronic journals, and they will normally supplement any negotiated licence that might be in place.

Appendix

The Pharma Documentation Ring (P-D-R)[2] is a group of corporate representatives from 23 of the major pharmaceutical companies. Representatives must belong to the scientific, biomedical or technical information function of a research-based pharmaceutical company and be able to report on non-confidential aspects of the information science activities of the corporate group. The majority of P-D-R member companies spend over $1 billion per annum on R&D activities.

The aim of the P-D-R is to attain improved coverage, better distribution and optimum use of chemical, biomedical and pharmaceutical information. This aim is achieved by promoting exchange of experience and ideas between members in non-confidential areas of work and by jointly studying and assessing existing information products and services for the purpose of improvement. This is often done in close collaboration with publishers and database vendors.

Quality and standards had already been elements in the model licence for e-journals, prepared by a joint P-D-R/STM working group[3].

The quality requirements and standards for e-journals that are published here were developed by a P-D-R working group. Members were:

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The document was discussed with all P-D-R members and approved by the Annual General Meeting in October 2004 (http://www.p-d-r.com/publications/publications.html).

Further information on this topic can be found at: http://www.p-d-r.com/publications/nielsen.pdf

References

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