Saturday 6 January 2001

BMJ

PubMed Central: creating an Aladdin's cave of ideas

We have seen the future, and it works

> If you have an apple and I have an apple and if we exchange these apples then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas.
>
> George Bernard Shaw

Starting this week, research articles from the *BMJ* will be freely available from PubMed Central, the new web based repository that will archive, organise, and distribute peer reviewed reports from biomedical journals (http://pubmedcentral.nih.gov). This will be in addition to their continuing free availability on bmj.com. The *BMJ* articles join those from 15 other journals. More are expected to follow suit.

PubMed Central's distinguishing characteristic is that it offers the full text of articles, free to users. Think of it as the logical extension of Medline, which offers the bibliographic details of articles and their abstracts. It depends on publishers and societies transferring peer reviewed articles to PubMed Central, which, like Medline, is funded by the US National Institutes of Health.

Benefits to authors of publishing in the *BMJ*

- Full text articles available free from bmj.com and PubMed Central on day of publication
- Wide international exposure (120 000 readers of the paper journal, 62 000 readers of 11 local editions, and 100 000 weekly visitors to bmj.com)
- Press exposure (most quoted medical journal in the British press)
- High impact factor (5.14)
- Opportunity for fast track peer review and publication
- High quality reviewing and technical editing
- Indexed by Medline and *Current Contents*
- Authors retain copyright and share in reprint revenue

A phenomenal advance

The *BMJ* has joined PubMed Central because we agree with Nick Cozzarelli, editor of the *Proceedings of the National Academy of Sciences of the United States of America* (also on PubMed Central), that "free access to the scientific literature would be a phenomenal advance in scientific publishing—the greatest in our lifetime."[1] We want to align ourselves with an initiative which, if successful, will benefit science and so clinical medicine and patient care. From the *BMJ*'s point of view, we think that better papers might be submitted to us if we offer authors a route to publication both on paper and on PubMed Central. And we think that many people might see our original articles on PubMed Central and then jump to bmj.com to download PDF versions and for accompanying editorials, commentaries, and rapid responses—thereby increasing traffic to our site.

Whether the initiative will succeed is unclear; certainly most scientific publishers are hoping it will fail. But PubMed Central is the first initiative really to take account of how fundamentally the world wide web has changed the landscape of scientific publishing. On the face of it traditional scientific publishers have moved with the times, migrating their paper journals on to the web in their thousands. But most of these are no more than electronic facsimiles of the paper product. Some journals, such as the *BMJ*, have begun to exploit the properties of the web.[2] But access controls and the high costs of electronic subscriptions have reproduced the same fragmentation of information that was the despair of the paper world.

What the architects of PubMed Central realised was that the quality control and distribution functions of journals could be uncoupled on the web in a way unthinkable in paper. They recognised that the costs of peer review were relatively low—as most peer reviewers do it for nothing—and that the costs of electronic distribution were trivial compared with those of paper, printing, binding, and postage of the paper journal. If, say, US taxpayers would pick up the distribution costs (as they have done the costs of Medline) then publishers could dispense with this function entirely. Free information would mean that libraries could stop subscribing, thereby releasing money back to researchers.

Some of that money had previously ended up in publishers' profits, so, unsurprisingly, publishers were loudest in their condemnation of PubMed Central. But when economic forces and the interests of the scientific community converge, publisher opposition may not succeed.

BMJ 2001;322:1–2

Authors want their work to have as wide a circulation as possible. Previously, they ceded control over their material to publishers as the price for having it published. But as the costs of publication have fallen so they want to renegotiate the contract. The battles over the copyright of scientific articles may, however, be lost almost before they have begun. The proliferation of peer-to-peer networking programs (Napster, Gnutella, FreeNet, and their successors) mean that, technically (though not yet legally) a single subscriber could make a journal's articles available to any other internet user.

Given their aims, authors of scientific articles would probably agree with the suggestion recently quoted by the *Economist* "that the piracy of intellectual property should be regarded as a form of promotion not theft."[3] For publishers, the costs of encryption and legal action to protect their property could exceed the value of the property being protected.[4] They might be better employed preparing for a world where original articles are free.

From information to knowledge

While most publishers remain wary of PubMed Central, other electronic agencies are springing up to provide the peer review function that journals have traditionally provided (www.biomedcentral.com, http://thescientificworld.com). But the web is changing peer review, too. The usual criteria for acceptance of scientific research—that it should be new, true, important, and of interest to the readers—are over-rigorous for a medium unconstrained by space. We still want what we read to be true—or as methodologically sound as possible—but if something is deemed interesting by only a handful of readers, what's the problem? BioMedcentral, the main supplier of electronic journals to PubMed Central, is willing to publish any scientifically sound paper.

Sooner or later Pubmed Central or something like it will flourish: the drivers are so strong. It will do the job of disseminating research better and more cheaply than it is done now. What then will be the role of journals? Our judgment is that journals whose main contribution is peer review and distribution of research will disappear. The peer review will be done, as now, by academics, the distribution by PubMed Central or its descendants. The remaining 15% of biomedical journals can survive if they do something valuable—something, by the iron laws of economics, that people will pay them more to do than it costs the journals to do.

Their value will be around selecting research that is important to their audiences and presenting it in as exciting and as relevant a way as possible; digesting and synthesising research, beginning to turn it from information to knowledge; educating readers, particularly on subjects that are new to them but which will change their lives; setting the agenda and encouraging debate within the community; prompting unfamiliar but deep thoughts; and—like Hollywood films, good novels, or soccer—entertaining the customer. If journals cannot add value then they will die, which is right and proper. But if reading them can be a pleasure not a chore then they can survive.

Tony Delamothe *web editor, bmj.com*
Richard Smith *editor, BMJ*

1 Cozzarelli NR. *A great advance*. www.sciencemag.org/cgi/eletters/285/5425/197#EL3
2 Delamothe T, Smith R. Revel in electronic and paper media. *BMJ* 2000;321:192.
3 Duncan E. Thrills and spills. *Economist* 2000;7 Oct (suppl):14.
4 Rojas P. Intellectual property. *Red Herring* 2000; 4 Dec:80-111.

A new mental health (and public protection) act

Risk wins in the balance between providing care and controlling risk

The 1959 Mental Health Act marked a transition from the "legalism" of the 1890 Lunacy Act, with its 19th century libertarian concerns, to a welfare statute in which decisions about involuntary treatment for mental disorders became primarily a matter for doctors.[1] In the Mental Health Act 1983 a revived form of legalism set some limits to medical discretion. Now a white paper, *Reforming the Mental Health Act*, promises a new epoch, one where "concerns of risk will always take precedence, but care and treatment provided under formal powers should otherwise reflect the best interests of the patient."[2] The foreword to a preview of the "biggest shake up in mental health legislation for four decades" is signed by both the health and the home secretaries, and half the paper is devoted to "high risk patients." Perceived failures in community care are the main drivers.

Simpler

We will see big changes. A simpler template for "formal assessment" followed by a care and treatment order, applicable in both civil and criminal justice settings, is described. Everyone, including patients and carers, should find it easier to understand. The definition of mental disorder is very broad—"any disability or disorder of mind or brain, whether permanent or temporary, which results in an impairment or disturbance of mental functioning." Personality disorder is clearly included. The criteria for a "care and treatment order" are an unwilling patient and the presence of a mental disorder "of such a nature or degree as to warrant specialist care and treatment" which is "necessary in the best interests of the patient and/or because without care and treatment there is a significant risk of serious harm to other people." An individualised care plan addressing the disorder must also be produced.

BMJ 2001;322:2–3