

Equitable access to scientific and technical information for health

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Hippocrates equated scientific truth with mystical knowledge which should be revealed only to the initiated (1). In current thinking, however, scientific and technical information is seen as an archetypal global public good which should be freely available for the benefit of all (2). With traditional printed publication, the wide dissemination of this information through academic journals was an expensive undertaking, but now the internet and associated technologies have revolutionized the situation. The opportunities presented by these technologies have led to calls for greater access to the scientific literature.

Even though electronic publication has reduced or eliminated costs associated with the printing, handling and postage of scholarly journals, other significant costs remain. These include quality control (peer review and editing), production and dissemination (making the edited information available on the internet), and long-term preservation. A movement called Open Access maintains that these residual costs of publishing scientific information should be borne by the provider, and that access to the information should not be limited by the user's ability to pay.

In particular, a model proposed by BioMed Central based on funding by authors or their institutions has become prominent (3). This model may solve the problem of access, at least for those with the required level of connectivity, but it is not clear if all authors or institutions can afford to provide free access, especially if they have to pay the full cost of publication. Other models of financing open access need to be investigated such as the SciELO Project in Latin America (4), in which funding is mainly by governments through their research agencies. This comes conceptually closer to the idea of scientific information as a global public good, and open access is now the dominant form of publishing academic journals in that region. While open access has made impressive progress in recent years, the scientific health literature is still dominated by commercial publishers and learned societies which follow a similar commercial model for the publication of

their journals. These publishers own copyright to millions of pages of scientific and technical information of vital interest to those working in the health field. Although they are susceptible to moral arguments about access to this information for those who need it, the publishers argue that they have both to finance their work and to meet obligations to their investors and members.

One of the advantages of electronic publication is that once the information is available for dissemination on the internet the costs of access are insignificant. This can allow publishers to provide free access to certain categories of readers at no or very little cost to themselves. It also allows publishers to adopt a policy of equitable access to the journals based on the ability of their customers to pay. The Health InterNetwork Access to Research Initiative (HINARI), involving WHO and many leading publishers (5) uses such a model.

There are many other ways in which publishers can give greater access to their information while still earning revenue to finance their work. For example, journals can give free access to the web version of the journal and charge for the print version; they can provide free access to articles and charge for advertising and access to other services on their web site; they can give free access to back issues and only charge for the current issue; they can give free access to newly-accepted articles and charge for access to the edited version. Many journals are successfully applying these models of increased access. The *Bulletin* has for some time supported models of open access both by giving free access to the web version of the journal and by participating in the SciELO project.

In any case publishers have to respond to calls for greater access to the scientific literature, otherwise more radical solutions may be favoured, in which their role could be eliminated. Proponents of self-archiving of scientific information, information portals, deconstructed journals and other radical ideas await their chance to win the support of a disenchanting academic

community. This community, which supplies journals with authors, reviewers and editors free of charge is increasingly dissatisfied with the cost of journal subscriptions and the balance of power in the publishing world. It recognizes the value of journals in the authority and quality control they provide, but its continued support cannot be taken for granted.

The encouragement given by scholars to projects such as the Public Library of Science (6), the Budapest Open Access Initiative (7) and the Open Archives Initiative (8) indicates both widespread support for greater access and the capacity to provide it. Health is perhaps the area of most intense demand for greater access to scientific and technical information, partly because failure to obtain it can be literally fatal. A public which pays for most medical research through taxes and other public funds is becoming increasingly puzzled by the barriers that deny access to the results of that research. The time is ripe for action. The initiatives already begun by publishers are a good sign, but can only be regarded as initial steps. A more comprehensive solution, allowing access for all those who need the information, is required. Hippocrates would have been delighted to see such an effective means of improving expertise and reducing ignorance. ■

1. Hippocrates. The Canon. In: *Hippocratic writings*. Harmondsworth: Penguin; 1978. p. 68.
2. Smith RD, Beaglehole R, Woodward D, Drager N, editors. *Global public goods for health: a health economic and public health perspective*. Oxford: Oxford University Press; 2003.
3. BioMed Central <http://www.biomedcentral.com/>
4. SciELO, The Scientific Electronic Library Online <http://www.scielo.org/>
5. The Health InterNetwork Access to Research Initiative (HINARI) <http://www.healthinternetwork.org/>
6. The Public Library of Science <http://www.publiclibraryofscience.org/support/openletter.shtml>
7. Budapest Open Access Initiative <http://www.soros.org/openaccess/>
8. Open Archives Initiative <http://www.openarchives.org/>

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