

## Building a bridge for research

Robert Terry<sup>a</sup>

Open access to publicly funded research information seemed idealistic in 2001, when 34 000 scientists signed the open letter to create a public library of science,<sup>1</sup> but it is an idea that is now widely accepted. For example, support for open access is an explicit element within the plan of action produced by the Intergovernmental Working Group on Public Health, Innovation and Intellectual Property<sup>2</sup> and a recommendation of the science academies in the United States of America in their assessment of their country's commitment to global health.<sup>3</sup> Where there is Internet access, individuals are increasingly using research information to inform themselves in making decisions about their health<sup>4</sup> and a survey in the United Kingdom of Great Britain and Northern Ireland showed that many people now consider broadband as essential a utility as water or gas.<sup>5</sup> But free access to more text is just the tip of what could be done with the information iceberg.

The Internet could radically alter the way scientific research is done.<sup>6,7</sup> For that change to happen, more peer-reviewed research papers and the data that support them need to be processed and presented in a high quality digital format to a standard such as the National Library of Medicine's Document Type Definition (DTD) by, for example, ensuring the paper is deposited in a free public repository such as PubMed Central. This allows the text to be automatically tagged to identify keywords, genetic sequences and chemical compounds. Links can then be made, often by computer, between millions of pieces of data in the research literature, databases and compound libraries.<sup>8</sup> The scope for research becomes hugely magnified and interconnected in ways not previously imagined, with greatly improved potential for finding new ways to improve global health. This potential remains unfulfilled while research is kept behind old-fashioned subscription barriers on a multitude of publisher web sites in various formats.

So will open access build a bridge to reduce health inequity? The potential is certainly great but the digital divide remains large, with estimates that only 13% of the developing world use the Internet, often on slow and expensive connections.<sup>9</sup> Therefore, the inequity in accessing information and communication technology infrastructure will need to improve to allow people to get a foot onto the information bridge. But even once they are there, they will still only be able to access information that has been paid for – even when that information was created using taxpayers' money. There is a role for more research funders and donors to support open access as an integral cost of undertaking the research itself to ensure public access.<sup>10</sup>

While the United Nations might be seen as having a "slow bandwidth" approach to this issue, things are moving ahead with the work of the International Telecommunications Union on promoting greater access to information and communication technology worldwide and the newly developed WHO strategy on research for health that states: "[WHO will]... adopt and articulate a WHO position on open access to research outputs; and advocate for the fol-

lowing: databanks, repositories and other mechanisms for maximizing the availability of health-related research findings that are freely accessible in the public domain".<sup>11</sup> ■

**Competing interests:** None declared.

### References

1. Public Library of Science [Internet site]. Available from: <http://www.plos.org/support/openletter.shtml> [accessed 29 June 2009].
2. Resolution WHA. 61.21. Global strategy and plan of action on public health, innovation and intellectual property. In: *61st World Health Assembly, Geneva, 19-24 May 2008*. Geneva: World Health Organization; 2008. Available from: [http://www.who.int/gb/ebwha/pdf\\_files/A61/A61\\_R21-en.pdf](http://www.who.int/gb/ebwha/pdf_files/A61/A61_R21-en.pdf) [accessed 29 June 2009].
3. *The US commitment to global health: recommendations for the public and private sectors*. Washington, DC: Institute of Medicine; 2009.
4. Andreassen HK, Bujnowska-Fedak MM, Chronaki CE, Dumitru RC, Pudule I, Santana S, et al. European citizens' use of E-health services: a study of seven countries. *BMC Public Health* 2007;7:53. PMID:17425798 doi:10.1016/S0033-3506(05)82201-2
5. Britons say broadband "essential". *BBC news*, 3 June 2009. Available from: <http://news.bbc.co.uk/2/hi/technology/8079637.stm> [accessed 29 June 2009].
6. Neumann E, Miller E, Wilbanks J. What the semantic web could do for the life sciences. *Drug Discovery Today: BIOSILICO* 2004;2:228-36. doi:10.1016/S1741-8364(04)02420-5
7. Schroeder M, Neumann E. Semantic web for life sciences. *Web semantics: science, services and agents on the World Wide Web* 2006;4:167.
8. Kiley R, Terry R. Open access to the research literature: a funders perspective. In: *Open access: key strategic, technical and economic aspects*. Oxford: Chandos Publishing; 2006. Available from: <http://eprints.rclis.org/6224/> [accessed 29 June 2009].
9. *Measuring the information society: the ICT Development Index*. Geneva: International Telecommunications Union; 2009.
10. Terry R. Funding the way to open access. *PLoS Biol* 2005;3:e97 doi:10.1371/journal.pbio.0030097 PMID:15760274
11. WHA62.12. Agenda item 12.8. WHO's role and responsibilities in health research: draft WHO strategy on research for health. In: *62nd World Health Assembly, Geneva, 18-27 May 2009*. Geneva: World Health Organization; 2009. Available from: [http://apps.who.int/gb/ebwha/pdf\\_files/A62/A62\\_12-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/A62/A62_12-en.pdf) [accessed 29 June 2009].

## Collaboration, not confrontation

T Scott Plutchak<sup>b</sup>

The potential social benefits of open access (however it is defined) appear to be significant. More research information is readily available than ever before and there is every indication that the amount will increase. There is a rising tide of enthusiasm for institutional, funder or government mandates that will result in some measure of increased free access, although relatively few of these initiatives actually make the final versions of peer-reviewed articles freely available immediately upon publication. Perhaps in the same way that we have been willing to sacrifice the clarity and reliability of the old landline telephones for the ease and ubiquity of cell phones, we will find that the power of unedited manuscript articles is a sufficient trade-off. It is still too early to tell what the unintended consequences of this focus on open-access mandates might be.

<sup>a</sup> Research, Policy and Cooperation Unit, World Health Organization, 20 avenue Appia, 1211 Geneva 27, Switzerland (e-mail: [terryr@who.int](mailto:terryr@who.int)).

<sup>b</sup> Lister Hill Library of the Health Sciences, University of Alabama at Birmingham, 1700 University Blvd, Birmingham, AL, United States of America (e-mail: [tscott@uab.edu](mailto:tscott@uab.edu)).