Bridging the eye health information gap through the internet

Sally Parsley
E-communications Manager, International Centre for Eye Health (Resources),
London School of Hygiene and Tropical Medicine, Keppel Street, London,
WC1E 7HT, UK.

Potential and problems of the internet

The internet connects millions of computers around the world. Once connected, the eye health worker can use internet services to:

- access the most up-to-date information at a fraction of the traditional cost of journal subscription via the new Open Access publishing model
- communicate with colleagues, reducing the sense of professional isolation which comes from geographical separation
- engage in a two way process of communication between health information providers and users
- publish locally appropriate material more easily.

However, if this technology is to play a major part in providing health information, some key problems must be acknowledged and addressed.[1]

A serious concern is with the 'digital divide' – the gap between those with and those without internet access. Only about one in eight people in the world can connect to the internet and most of these are in high income countries.[2,3] This 'digital divide' is at its most extreme in Africa where it is estimated only one in 70 were able to access the internet[3] and most of those in South Africa.[4]

Some publishers bridge this gap by finding alternative ways to distribute information. The International Centre for Eye Health (ICEH) for example, has adopted an approach to sharing information which combines print and electronic materials and new technology such as the internet, email and CD-ROM to provide information in easily accessible formats and to facilitate local production and adaptation.

We can expect internet access to improve and become more affordable in the future (See Table 1). Potential users should not be put off by a lack of experience – the rest of this article gives help and advice on how to use the internet to access reliable and free eye health information.

Table 1. Use of the internet throughout the world

World region	% Population Internet Useage (2004 or latest data)	User Growth (2000-2004)
Africa	1.4 %	183.2 %
Asia	7.1 %	124.4 %
Europe	30.7 %	117.7 %
Middle East	6.5 %	218.7 %
North America	68.6 %	106.3 %
Latin America/Caribbean	9.4 %	180.9 %
Oceania	48.5 %	107.2 %

From Internet World Stats www.internetworldstats.com/stats.htm

How to find the information you want

First, be clear about what you want to achieve (Table 2).

Table 2. Different types of health information and how to access it

What do you want to achieve?	How to find information
Explore a health topic generally or look for some specific health information	• Browse health web sites – this can be time consuming • Use a search engine – see 'Tips for searching the web' • Visit information gateway and bibliographic database web sites – these web sites and pages collect links to documents on a specific topic
Find out about an organisation	• Visit its web site • If you don't know the web site address use a search engine
Keep abreast of current research and practice in the health field	• Visit electronic journal web sites • Visit information gateway and bibliographic database web sites • Subscribe to email updates and alert services
Access free journals on line	• Visit Open Access web sites for up-to-date research
Participate in discussion with a group of others	• Subscribe to email lists – read and participate in discussions via email • Visit discussion boards – read and participate in discussions via a web site
Communicate with colleagues around the world	• Use email • Use Instant Messenger computer programs • Visit individuals' web sites

Tips for searching the web

Some examples of popular search engines are:

- **Google** www.google.com
- **Alta Vista** www.altavista.com
- **Yahoo** www.yahoo.com
- **Dogpile** www.dogpile.com

Think carefully about how you will enter the search terms you want to use.

- are there alternative spellings?
- which language will you use?
- is the plural term often used as well?
- are there terms with similar meaning?

Use Boolean terms such as:

- OR
  Web pages found containing either term will get a higher placing. Note: OR is used by default in many search engines.
  For example, open-angle OR glaucoma

- AND / +
  Web pages found must contain both terms.
  For example, open-angle AND glaucoma

- NOT / -
  Web pages found must not contain the terms preceded by NOT.
  For example, glaucoma NOT open-angle

- " "
  Web pages found must contain the exact search term between the quotation marks
  For example, "open-angle glaucoma"

Read the help pages provided by many search engines. The symbols used for AND/OR/NOT differ and not all search engines support all the Boolean features.

Evaluating information

Anyone can publish anything on the internet, and inevitably some of what is published is inaccurate or undesirable. Things to consider include:[5]

- **Author**
  Do you recognise and trust the author's name and affiliation?

- **Publisher**
  Try to assess the publisher's role and authority

- **Point of view or bias**
  Because it is easy to publish on the internet, the variety of points of view and bias will be the widest possible

- **References**
  References allow you to evaluate an author's knowledge

- **Accuracy**
  Can the information be verified?

- **Up-to-Date**
  When was the information published?

Examples of useful web sites
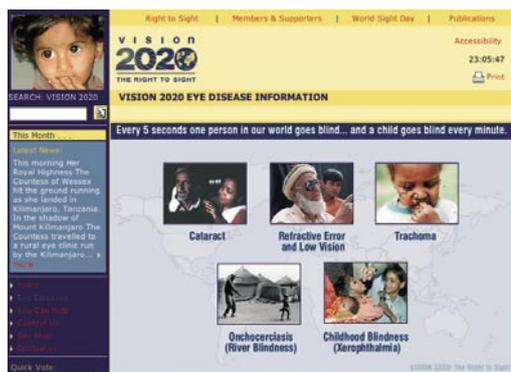
WEB SITES AND PAGES FOR EYE HEALTH WORKERS

VISION 2020: The Right to Sight
www.v2020.org

VISION 2020 E-Resource
www.laico.org/v2020resource/homepage.htm

**WHO (World Health Organization)
Prevention of Blindness and Deafness**
www.who.int/pbd

International Centre for Eye Health (ICEH)
www.iceh.org.uk

American Academy of Ophthalmology (AAO)
www.aao.org

Cochrane Eyes and Vision Group (CEVG)
www.cochraneeyes.org

EyeText Ophthalmology image database, study cards and monographs
www.eyetext.net/index.php

INASP Eye Health links
www.inasp.info/health/links/eye.html
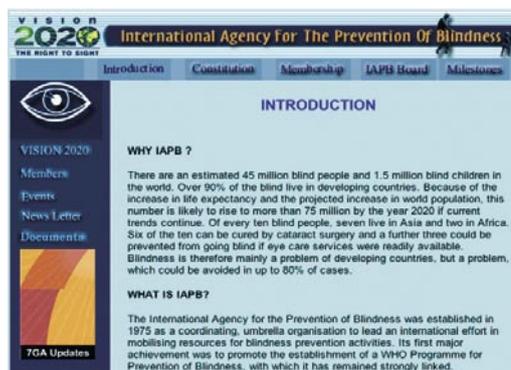
International Agency for the Prevention of Blindness (IAPB) www.iapb.org

OMNI Gateway Ophthalmology links
http://omni.ac.uk/text/browse/subject-listing/WW100.html (low graphics version)

Task Force Sight and Life
www.sightandlife.org

VisionConnection (Lighthouse International)
www.visionconnection.org

OPEN ACCESS WEB SITES FOR FREE UP-TO-DATE RESEARCH

Archives of Ophthalmology
http://archopht.ama-assn.org

BioMed Free access to peer-reviewed biomedical research
www.biomedcentral.com

Directory of Open Access Journals (DOAJ)
www.doaj.org

FreeMedicalJournals.com
www.freemedicaljournals.com
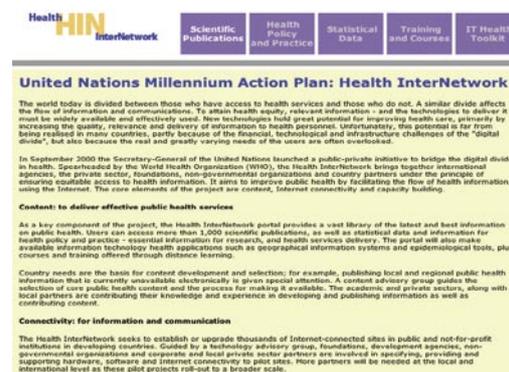
Health Internetwork Access to Research Initiative (HINARI) Provides free or very low cost online access to the major journals in biomedical and related social sciences to local, non-profit institutions in developing countries
www.healthInternetwork.org

PubMed Central (PMC) A free digital archive of biomedical and life sciences journal literature
www.pubmedcentral.nih.gov

INFORMATION GATEWAY AND BIBLIO-GRAPHIC DATABASE WEB SITES

African Journals OnLine (AJOL) Provides access to African published research www.ajol.info

Bioline A not-for-profit service providing open access to quality research journals published in developing countries www.bioline.org.br

International Network for the Availability of Scientific Publications (INASP) Aims to enhance the flow of information within and between countries. www.inasp.info/index.html

Latin American and Caribbean Center for Information (BIREME) Promotes the use of health scientific and technical information in Latin America and the Caribbean. www.bireme.org.

Public Library of Science (PLOS) Aims to make the world's scientific publications and medical literature freely available to all.
www.publiclibraryofscience.org

PubMed/MEDLINE Over 14 million citations for biomedical articles. Many are not free to access but there are links to sites providing free full text articles
www.ncbi.nlm.nih.gov/entrez/query.fcgi

SOURCE Information on health and disability, with three databases – Bibliographic, Contacts and Newsletters / Journals www.asksource.info

EYE RELATED EMAIL LISTS AND DISCUSSION BOARDS

EyeText Discussion Boards
www.eyetext.net/agora/index.php?site=eyetext

VISION 2020 E-Resource Siteforum
www.laico.org/v2020resource/homepage.htm (click on the 'siteforum' button)

Trachoma Information Service
www.kcco.net

These links give full and free access to information unless otherwise stated. An expanded list, with extra links to internet guides, is available on the *Community Eye Health Journal* web site at **www.jceh.co.uk/links.asp** and you can email admin@jceh.co.uk and request it to be emailed to you. Readers are also invited to inform us of useful links.

Glossary of terms

Bookmark – also called Favourite – a way to save in your browser direct links to web sites you want to see again.

Boolean searches – a way to improve searchers using 'operatives' such as AND, OR, and NOT.

Browser – a computer programme that lets you view the World Wide Web. For example, Internet Explorer. Browsing is the act of clicking on a link in one web document and opening another one.

Discussion Boards – popular, fun, alternative places for discussion. They are accessed and viewed on the web through a browser.

Email – a way to send messages to other internet users.

Email Lists – services to which you subscribe to receive and partic-ipate in discussions via email.

Email Alerts – subscription services which send you emails when web sites have new content.

Instant Messengers – computer programs that let you send a message that immediately pops up on an online contact's screen. Two free examples are ICQ and AOL Instant Messenger.

Hypertext Links – text, buttons or graphics that, when clicked with a mouse button, open another page.

Open Access Publishing – a new model for financing scholarly publication. Instead of users paying to subscribe to a journal, articles are made available electronically for free and the cost is paid by the authors or institutions.

URL (Uniform Resource Locator) – a web site address. For example, the URL for the *Community Eye Health Journal* web site is www.jceh.co.uk To visit this web page type the URL into the address bar of the browser.

References

1 Tan-Torres Edejer T. Disseminating health information in developing countries: the role of the internet. BMJ. 2000; 321:797–800. Available from: http://bmj.bmjjournals.com/cgi/content/full/321/7264/797

2 International Telecommunications Union. Internet indicators: Hosts, users and number of PCs 2003. Available from: www.itu.int/ITU-D/ict/statistics/at_glance/Internet03.pdf

3 Internet World Stats. World internet users and population stats. Available from: www.internetworldstats.com/stats.htm

4 Manji F, Drew R, Jensen M. Healthcare training and internet connectivity in Sub-Saharan Africa. (Monograph on the Internet), Oxford: Fahamu; 2002. Available from: http://tall.conted.ox.ac.uk/globalhealthprogramme/report/Nuffieldwebreport.pdf

5 Kirk E. Evaluating information found on the internet. The Sheridan Libraries of The John Hopkins University 1996 (updated 5 June 2002). Available from: www.library.jhu.edu/researchhelp/general/evaluating/index.html

All web links were accessed on 24 September 2004.