Many of us already use the world-wide web in the course of our work – both to communicate with colleagues and to share and access information. A relatively new development is to use the web as an interactive forum for structured, moderated discussions, in which participants exchange views about a specific topic. We recently moderated a web-site discussion on ‘methods and models: cost-effectiveness analysis for HIV prevention’ for the International AIDS Economics Network (IAEN), sponsored by UNAIDS. The discussion lasted for 2 months, ending in April 1999, and can be viewed at (http://www.iaen.org). From the outset we recognized that it was an exciting opportunity to discuss our area of speciality with colleagues from a diverse range of backgrounds, but did not fully appreciate the challenges involved. As such discussions are increasingly likely to be used by a range of health professionals, we thought that it would be useful for others to share our experience.

There are several modes of communication on the internet, including e-mail, participation in subject-specific conference groups, and posting of resource materials on web-sites for others to access. The web-site discussion is an amalgam of these – incorporating both the ease of communication of conference groups, but also having a focused, structured and time-restricted element to the discussion, as is found in face-to-face meetings or conferences. The discussion is based at a particular web-site. Anyone can read the comments from different participants and download materials from the site. Generally, anyone wanting to actively participate registers for the discussion, and then can ‘post’ responses directly on the web-site, or send them in by e-mail.

As moderators of the discussion we had to:

- develop themes and background summaries of the main issues;
- draw up a mailing list of key individuals to be invited to participate in the discussion;
- provide reference materials, including introductory texts, state of the art materials, and recent journal articles;
- make available other resources (in our case, guidelines for costing HIV prevention activities and mathematical models for participants to test);
- initiate the discussion by introducing the themes and providing questions;
- moderate the discussion by summarizing the discussion at key points, highlighting emerging themes and questions.

We found that structured web-site discussions have a number of advantages. Primarily, they can be used to promote the widespread exchange of ideas, materials and tools. For example, within our topic area there are many groups who might make important contributions to the discussion, including project managers, policy makers, health professionals, economists, mathematical modellers, advocacy groups and funding agencies, based in both industrialized and low and middle income countries. In our discussion we estimated that we had about 1574 different people visit the web-site from 54 different countries and from a range of disciplines.

Indeed, web-site discussions could ultimately serve as an alternative to more expensive meetings or conferences, with the advantage that individuals can ‘listen’ to the discussion at a time of their choosing. For example, over the 2 months we had a total of about 4000 sessions lasting on average about 10.75 minutes. Time-wise, this is roughly equivalent to 30 people attending a three-day conference.

The web-site is a good forum in which to highlight and to make available key materials and resources. This has an educational role, providing a mechanism to introduce or refer both non-specialists and specialists to selected materials. Over the 2 months of our discussion the amount of information requested from the web-site was roughly equivalent to 420 books of 200 pages. In addition, during the discussion participants contributed supplementary materials, models and tools. This enabled us to develop a rich resource-base for the topic that is free for the public to access. Making such information freely available is likely to be particularly important for participants from low and middle income countries, who may have limited access to certain journals or recent publications and reports. In practice, we e-mailed...
materials to those participants who could not access the website materials easily.

While the development of the discussion looked quite straightforward, as we started the process several issues arose. Firstly, although our primary audience was the IAEN membership, we also anticipated broader participation. We did not really know who our audience was and what their experience in this area would be. For this reason, we developed two survey questionnaires that we sent out as a precurser to the discussion. (One asked about people’s experience of costing HIV prevention activities and the use of cost data in planning and policy. The other was directed at mathematical modellers, and requested information on current models that can be used to estimate the impact of different HIV prevention activities). The responses enabled us to get a better sense of who would participate, and their areas of interest and expertise.

Secondly, once we had developed a reading list of materials to post on the web, we explored the copyright issues. Obtaining permission to post on the web was not as straightforward as obtaining copyright permission for teaching and photocopying use. We had to individually approach each of the publishers, most of whom had not yet developed a policy on web-site access. In the end some publishers allowed us to post a complete article on the web-site, other journals would only allow us to post abstracts, and others allowed read only access for a limited time period and wanted payment to be made for each time that the article was accessed. All publishers required us to provide links to their own web-sites.

Thirdly, it was not always easy to get people to ‘talk’. Before the discussion we had hoped to start the ball rolling by ‘seeding’ the questions with key people in the field, and asking them to post responses at the beginning of the discussion. This was partially successful. However, comparing the numbers accessing the discussion (the ‘clicks’) with those posting, it seems that many people were following the discussion without posting responses themselves. In particular, there were relatively low levels of participation from practitioners in the field compared with academics and international policy-makers. While the low participation from field-practitioners may be partially explained by more difficult access to telecommunications and the world-wide web, many did actively participate in the surveys and use of the models. Only 23% of the respondents to the cost survey were in academia, whereas 34% of the respondents worked in central governments and non-governmental organizations, and 16% worked in international organizations. The models were used by participants in such varied places as the Philippines, Belarus and China. Participation in the discussion also crossed the North–South divide, but again the main participants from both regions were academics and international policy-makers. It seems people were shy to post their thoughts in a public sphere.

Finally, as we had hoped, a range of different debates grew from our initial questions. However, the responses did not come immediately but rather over a period of days and weeks, resulting in a number of different conversations going on at the same time. Therefore, it was not possible to move cleanly from one identified theme to another. This highlighted the importance of using summaries to focus the discussion as it progressed.

Having completed the discussion, we would say that overall it was definitely a worthwhile activity. Some of the main lessons learned were as follows.

- The time spent setting-up and monitoring the discussion (aside from the technical aspects of interfacing and linking) was far longer than anticipated. A suggested time-frame of activities for moderation of a web discussion is provided in Table 1.
- Copyright constraints meant that it was difficult to put full-text documents of key readings from the academic literature onto the web-site.
- Although many people could participate in the discussion via e-mail, the retrieval of web materials was difficult for

Table 1. Suggested time-frame of activities for moderation of a web discussion

<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>1</td>
<td>Develop and consult about themes for discussion</td>
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<tr>
<td>2–3</td>
<td>Identify and collect reference materials for themes in an electronic form; this may mean directly contacting authors</td>
</tr>
<tr>
<td>4–7</td>
<td>Negotiate with publishers regarding copyright and use on the web, and contact others regarding links to relevant web-sites</td>
</tr>
<tr>
<td>8</td>
<td>Finalize lay-out for web-site discussion – e.g. identify how materials go together, major links between pages, and links to other web-sites</td>
</tr>
<tr>
<td>9–10</td>
<td>Write introductory materials for the discussion introducing resource materials and key texts, and discussion questions</td>
</tr>
<tr>
<td>11 Discussion</td>
<td>Programming web-pages (for technical staff)  Develop a mailing list of potential audience and participants  Individually contact key resource people who may help ‘seed’/develop the discussion</td>
</tr>
<tr>
<td>Post-discussion</td>
<td>Announcement of the beginning of discussion to general mailing list, and other relevant electronic conferences</td>
</tr>
<tr>
<td></td>
<td>Monitor discussion, reply to discussion, trouble-shoot, prompt responses. Periodic summaries</td>
</tr>
<tr>
<td></td>
<td>Add materials that people send to web-site resources</td>
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</table>
some participants, particularly from low- and middle-income countries, and these participants relied on e-mail to access materials.

• Although there are substantial opportunities for exchange between people, there were many ‘listeners’ and far fewer ‘talkers’. This may change as people get more used to this mode of interaction.

Structured web-discussions could have the potential to replace some workshops and conferences. As moderators based in the UK, we still had the opportunity to ‘meet’ and ‘listen’ to a diverse range of people. However, it also meant late nights linked onto the web, and missed opportunities to travel to sunnier climes!

Endnotes

1 The IAEN is sponsored by UNAIDS, The World Bank, USAID and the European Union.
2 In conference groups, individuals register to join a group discussing a specific area of interest. For example, HIV/AIDS discussion groups include gender-aids (gender and HIV/AIDS), intaids, treatment-access and sea-aids (HIV/AIDS in South East Asia). The topic areas are often broad and discussions by e-mail may concurrently focus upon a wide group of diverse and often unrelated topics and at any time.
3 The moderators provided the subject-specific experience. Lawrence MacDonald, the web-site manager, and Dave Witzel provided the technical and computer expertise.

4 In our discussion, we identified the following: the role of cost and cost-effectiveness analysis in priority setting and resource allocation; measures of outcome and impact; and the use of models to estimate an intervention’s impact.

5 Dave Witzel provided the statistics.


Acknowledgements

The web-site discussion on ‘methods and models: cost-effectiveness analysis for HIV prevention’ for the International Aids Economics Network (IAEN), was sponsored by UNAIDS. Lilani Kumaranayake and Charlotte Watts are members of DFID-funded Health Economics and Financing Programme (HEFP) at the London School of Hygiene and Tropical Medicine.

Biographies

Lilani Kumaranayake is a Lecturer in Health Economics in the Health Policy Unit of the London School of Hygiene and Tropical Medicine.

Charlotte Watts is a Lecturer in Epidemiology and Health Policy in the Health Policy Unit of the London School of Hygiene and Tropical Medicine.

Correspondence: Lilani Kumaranayake, Health Policy Unit, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, UK.