Evidence-based Consumer Health Information: Developing Teaching in Critical Appraisal Skills

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Objective: To help people who give health information to the public develop the skills they need to make sense of evidence about effectiveness.

Design: Educational approach, preceded by careful planning with representatives of possible participants.

Setting and study of participants: Staff in consumer health information services and members of maternity self-help groups in the UK in summer 1995.

Interventions: Pairs of half-day workshops introducing participants to randomised controlled trials and systematic reviews and to their critical appraisal. The workshops were run participatively and had at their centre a critical appraisal session in small groups.

Main outcome measures: Attendance at workshops; satisfaction and enjoyment of workshops; comments at a follow-on event.

Results: Four pairs of workshops were held (three for consumer health information services, one for maternity self-help groups), 54 people attended a pair of workshops and a further 34 attended individual workshops. The workshops were enjoyed and found to be a good use of time.

Conclusions: It is feasible to introduce critical appraisal skills to people whose primary role is to give health information to the public. There is a need for comparative evaluation of different approaches. Copyright © 1996 Elsevier Science Ltd.

Received 29 February 1996; accepted 22 May 1996.

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second is the wish to promote evidence-based health care and clinical effectiveness [4], one consequence of which has been the support given by the NHS Research and Development (R & D) programme to the UK Cochrane Centre and the NHS Centre for Reviews and Dissemination [5]. The UK Cochrane Centre, is of course, only one player in the Cochrane Collaboration, an international network of individuals helping to prepare, maintain and disseminate systematic reviews of the effects of health care [6].

If CHIS are to meet this challenge of providing clients with evidence-based information, they need to be able to do four things [7]: (i) turn clients' problems into questions which research-based evidence may address; (ii) find the best evidence relating to those questions; (iii) appraise (make sense of) that evidence; and (iv) report it back appropriately to their clients. Experience suggests that this may be difficult. The King's Fund report found, for instance, that CHIS made little use of Medline or of medical libraries (likely to be valuable of sources of relevant evidence) and that overall 48% of local and 31% of regional CHIS did not feel able to answer queries about treatment outcomes satisfactorily [2].

CHIS are generalist, with a remit that is very broad. Consumer self-help groups fulfil a complementary role, providing their members with specialist information about a particular disease, disability or aspect of the health service. Ideally, CHIS should be working in close co-operation with consumer self-help groups although, in England at least, this seems rarely to be the case [2].

The Critical Appraisal Skills Programme (CASP) is a UK project that seeks to help health service decision makers develop skills in the critical appraisal of evidence about clinical effectiveness, in order to promote the delivery of evidence-based health care [8]. It does this through half-day workshops that introduce participants interactively to the ideas of evidence-based health care and those of the Cochrane Collaboration; and that take them through a participative critical appraisal session in small groups. This uses an approach to critical appraisal that focuses on the needs of users (rather than doers) of research, and so asks three key questions of a paper: is it trustworthy? how important are the results it presents? and, how relevant is it to your situation [9]? Most workshops are problem-based and multi-disciplinary. Since December 1993, CASP has supported more than 100 workshops, attended by over 2000 people from a wide range of backgrounds (clinical and non-clinical; some trained in research but most not; medical, nursing, therapist, quality assurance and so on) and settings (primary, secondary and tertiary care; purchasing/financing as well as health care providing) [10]. Two particularly successful workshops were run in the autumn of 1994 for members of the National Childbirth Trust [11], a prominent self-help group in maternity services.

Building on this experience, at the beginning of 1995 CASP successfully bid to the King's Fund Centre for funding for a pilot project to run workshops for consumer health information services and self-help groups. The project involved employing a project worker with considerable experience in consumer health information to work a third-time for nine months, supported by the CASP Project Director. The aim and objectives of the project (Box 1) make clear that we planned a development and not a

**Box 1. Aim and objectives of the CASP for CHIS project**

**Aim**

To help people who give health information to the public develop the skills they need to make sense of evidence about clinical effectiveness.

**Objectives**

(1) Identify with the target groups how these skills can best be developed.
(2) Run workshops for target groups.
(3) Support target groups in setting their own objectives.
(4) Support the target groups in taking this work forward.
(5) Produce reports and other follow-up materials for the King's Fund.
(6) Evaluate the delivery of the workshops and their impact on target groups' knowledge and practice.
(7) Make recommendations for future work in this area.
research project and the format of the rest of this paper reflects this.

**PLANNING THE WORKSHOPS**

Much more time was spent planning the workshops than delivering them. This involved detailed work by the project worker in the two main areas: identifying and inviting participants; and defining the content and planning the delivery of the workshops.

**Participants**

We were asked by our funders to concentrate on CHIS but to reserve one pair of workshops for maternity self-help groups. In each case, assembling a list of people to be invited proved difficult and time consuming. Those working in CHIS in the UK are part of an extended and loose network with no central register, so an _ad hoc_ register was collated from a variety of sources. We identified more than 30 maternity self-help groups in the UK and, from these, compiled a list of people who might be interested in attending the workshops. In all, we sent invitations to 238 members of CHIS and maternity self-help groups. Invitations were accompanied by an informative flier about the project and by an article about recent developments in finding evidence about effectiveness [12].

**Content and delivery of workshops**

Typical half-day CASP workshops are structured around four sessions; an introduction, critical appraisal in small groups, feedback, and evaluation. Within this, we sought to involve representatives of possible participants as much as possible in planning the workshops’ content and delivery. For each workshop, we identified a planning team of two or three people and had several meetings or telephone calls with them before the workshop. This allowed us to tailor the workshops more closely to participants’ needs, both educationally and administratively. Educational tailoring included agreeing objectives for a workshop (typical ones are shown in Box 2), choosing learning topics of greatest relevance to participants, producing realistic scenarios and modifying the programme where appropriate. A crucial part of administrative tailoring involved choosing the time, date and venue convenient for the workshop.

One way of increasing participants’ ownership of a workshop is to involve opinion-leaders in...
Box 3. Topics discussed in workshops

<table>
<thead>
<tr>
<th>Workshop 1</th>
<th>Workshop 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics discussed at workshops</td>
<td>Stroke prevention (Koudstaal [24])</td>
</tr>
<tr>
<td></td>
<td>Family interventions for schizophrenia (de Jesus Mari [25])</td>
</tr>
<tr>
<td>Fitness programme for arthritis (Kovar [20])</td>
<td>Iron supplementation in pregnancy (Mahomed [26])</td>
</tr>
<tr>
<td>Drug treatment for Alzheimer’s disease (McLachlan [21])</td>
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<tr>
<td>Aspirin for migraine prevention (Buring [22])</td>
<td></td>
</tr>
<tr>
<td>Social support and pregnancy (Oakley [23])</td>
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running it. While the “stand-up” roles at each workshop were taken by members of the project team, the workshop chair and those facilitating small groups were drawn from expected participants in each workshop. This was only possible by involving potential participants in the planning.

DELIVERING THE WORKSHOPS

Workshops were run in pairs, with participants strongly encouraged to come to both. The first workshop in each pair focused on how evidence about effectiveness is produced and where it can be found. Participants worked through the critical appraisal of a randomised controlled trial in small groups relating the topic (Box 3) to previously discussed questions. For instance, two questions related to the trial about fitness programmes for people with arthritis: does regular walking help people who suffer with osteoarthritis of the knee? Also, what advice should be given to a practice nurse (who wanted to know what advice she should give to her older clients suffering with arthritis)? The second workshop in each pair focused on how evidence is summarised, on the strengths (and weaknesses) of systematic reviews and introduced participants to the ideas of the Cochrane Collaboration. Again, participants worked through a critical appraisal exercise in small groups, this time looking at a systematic review (Box 3).

We ran four pairs of workshops (the first and second of each pair separated by at least two weeks) between July and September 1995. Each workshop lasted 4–5 hr (excluding breaks) and was in four parts: (1) a plenary session introduced the key concepts of the workshop. In the first workshop, these covered ideas of clinical effectiveness and its measurement, randomised controlled trials, and *ACP Journal Club* and *Evidence Based Medicine* as useful sources of randomised controlled trials. In the second workshop, the potential and pitfalls of reviews of evidence were discussed, and the work of the Cochrane Collaboration and the NHS Centre for Reviews and Dissemination cited as useful sources of systematic reviews; (2) participants critically appraised a research paper (of a randomised controlled trial in the first workshop, a systematic review in the second) in small groups; (3) participants fed the discussions and conclusions of their small groups back to a plenary session; and (4) a short plenary evaluation session, both verbal and written, concluded the workshop.

Each workshop was delivered by a team consisting of both experienced CASP educators and CHIS opinion leaders. The workshops were run in a genuinely interactive way and so participants—and those on the workshop teams—learnt a lot about each others’ ideas and expertise. For instance, participants were asked at one point to give examples of questions they had been asked about treatment outcomes: a selection of those mentioned at the maternity workshop is shown in Box 4.

Overall, 84 people attended the workshops, with the number attending each occasion ranging from 9 to 26. Fifty four people attended a pair of workshops and 30 attended individual events only.
**THE IMPACT OF THE WORKSHOPS**

We report here on the workshops' impact, as assessed by the project team using several complementary approaches.

**Discussions with planning team before and after workshop.**

It was clear that those on the planning teams valued this involvement, despite the time it took (typically 8-10 hr, spread over two months). Their involvement was especially important in choosing the topics for discussion at workshops, developing suitable scenarios as a focus for the critical appraisal exercise, and helping identify further participants and identifying suitable venues.

**Verbal feedback from participants at the end of the workshop.**

Most feedback about the workshops was positive. Those who attended, however, were clearly a selected group, since it can be difficult for people working on their own or in small teams to get away for training days. Similarly, some parents of small or school-age children had difficulties (we did not provide a crèche).

**Completion by participants of a satisfaction questionnaire at the end of the workshop.**

At the end of each workshop, participants completed an anonymous questionnaire that included two summary evaluation questions. Replies were received from 105/139 (76%) participants and the results were encouraging. All respondents said they enjoyed the workshop "quite a lot" or "very much" and nearly all (93%) said they found it a good or excellent use of their time. More illuminating, perhaps, were some of the comments in response to open questions. Those in Box 5 illustrate the widespread sense of empowerment and demystification reported, as well as some continuing uncertainty.

**Extensive discussion at a follow-on event in October 1995**

All 84 people who had attended a workshop were invited to a follow-on "Taking It Forward" day in October 1995. There was a positive response from 36 (43%), with 12 attending and a further 24 expressing interest but unable to attend. The event proved a valuable forum in which the importance of CHIS and self-help groups moving into the area of evidence-based health care could be more fully explored.

The central challenge was acknowledged to be the growing expectation that CHIS and self-help groups would give out evidence-based outcomes information: an expectation shared by funders of the services, by their users and by those providing them. At the same time, it was recognised that meeting this challenge required a coordinated approach in three areas. First,
services that give health information to the public need better access to good evidence. Second, providers of such services will need to develop new sorts of skills (including skills in finding and making sense of evidence, and skills in sharing this information with clients). Third, such services will need to change the way they work (for instance, providing more time for training and more time for work with clients, developing quality standards for providing information about outcomes of treatment, and securing funding to support all these changes). Underpinning all these changes was the need for a debate with the research community about the information required.

RECOMMENDATIONS

In developing and delivering a programme of CASP workshops for people in consumer health information services and maternity self help groups, we were privileged to gain a clearer view of the interface between evidence-based health care and consumer choice. This view informed the recommendations we made in our final report to our funders, targeted at three groups: the staff of Consumer Health Information Services; those who commission them and those who are involved in their training; and the NHS R&D programme. The recommendations covered four areas. We highlighted a need for:

(a) CHIS to give clients much high quality information about outcomes;
(b) CHIS to have training to support this developing role;
(c) formal support and guidance for the provision of outcomes information, in the form of co-ordination, funding, standards and structures for CHIS; and
(d) a streamlined dissemination of outcomes information to the public by NHS R&D, working proactively with CHIS;

DISCUSSION

This project worked in the area of evidence-based consumer choice, a concept which brings together two important modern movements within health care [13]. These are evidence-based medicine (which has been described as a "paradigm shift" in the practice of medicine [14]) and consumer choice (putting the consumer, rather than the clinician, at the centre of health care has been described as "Copernican revolution" [15]). It has been suggested that there may be a perceived conflict between the two [16], but we agree with those who maintain that there can and should be a synthesis [17]. Indeed, part of the project's success came from working with a self-help group that has for some years asserted the importance of research based care and informed choice, while defending the rights of patients to base decisions about their own care on other beliefs, wishes or priorities [18].

The experience of the project shows that it is feasible to run CASP workshops for people who give health information to the public. Clearly, however, while such workshops are enjoyed and found useful, they cannot turn critical appraisal novices into experts. The workshops last only half a day and they deal with critical appraisal only in the wider context of evidence-based medicine and the Cochrane Collaboration. From anecdotal evidence, what we believe they can do is to help participants improve their knowledge and skills in this area; more formal evaluation of this is under way. At the same time, the impact of the project should have been more than the impact of the workshops, including as it did a range of activities designated to raise the profile of evidence-based consumer choice: informative invitations, thorough planning, participative evaluation and the "Taking It Forward" event.

A number of important issues that arose during the workshops should be mentioned here. These include difficulties in discussing risk and uncertainty; the misunderstandings which may arise from differences in lay and professional use of language; issues of who is involved in decision making; and the dividing lines between health information, education, counseling and advice (our use of the term "advice" in the questions relating to the topic on a fitness programme for arthritis caused considerable disquiet). Most important, if consumers are to make informed choices, they must have access to treatment outcomes information that is reliable, expressed in terms that are meaningful [19] and that applies to their situation. CHIS and self-help groups are likely to have an important role in promoting such access and we have found that people in CHIS and self-help groups can learn these skills and are keen to share them with their...
colleagues. The challenge now is to develop and evaluate different approaches to helping them do this.

Acknowledgements: We are grateful to the King's Fund Centre for funding the project; to the very many people who helped make the project a success and in particular to Claire Spittlehouse and Samantha Chapman for administering the workshops; to all participants in the workshops for their hard work, good humour and constructive criticisms; and to-. Andrea Wilkinson for taking the paper through many drafts.

REFERENCES