Evaluation of a journal club as a forum to practise critical appraisal skills

ABSTRACT—Critical appraisal skills are important if clinicians are to practise evidence-based medicine. This is an evaluation of the first six months of a journal club in a department of public health medicine. We analysed attendance, types of paper reviewed, impact on commissioning policy and publication of letters to editors and conclude that journal clubs can be an effective learning environment and further the Clinical Effectiveness Initiative.

Implementation of the Clinical Effectiveness Initiative is one of the top priorities for the National Health Service [1,2]. The initiative encourages health care practitioners to apply external evidence in their individual practice. It is therefore important that practitioners develop their critical appraisal skills if evidence-based medicine is to be successful. Critical appraisal, ie, the process of weighing up evidence, has to be learnt and practised regularly in order to avoid misleading conclusions. Sackett has suggested that a journal club can be a useful forum to develop and enhance critical appraisal skills [3]. This paper reports the findings of an evaluation of a journal club as a learning environment to practise critical appraisal.

Methods

In May 1995 the department of public health medicine in South Glamorgan Health Authority formed a journal club with the aim of critically appraising peer-reviewed articles which were of particular relevance to the Authority. The club meets every two weeks for one hour and involves all consultants and trainees in public health medicine in South Glamorgan, as well as non-medical research staff, 16 in all. Both consultants and trainees take it in turns to present articles which are selected because of their relevance to the practice of public health or their implications for the commissioning policy.

An evaluation of the journal club was carried out in February 1996 based on activities during its first six months, from May–November 1995. Process measures, such as attendance at the journal club and the types of papers reviewed, were recorded and analysed. Two proxy outcome indicators were used; the impact on commissioning policy, and the publication of letters to the editor of the journal from which the articles were selected. The latter gave an indication of how successful our critical appraisals were.

Results

The journal club met 11 times in its first six months, with between three and eight people attending each meeting. At least one consultant or senior lecturer and trainee attended every meeting. However, the research officer and the dental public health trainee each attended only four of the 11 meetings. Thirteen articles comprising ten original papers, two editorials and one commentary were reviewed from five journals (Table 1); BMJ (6), Lancet (4), Journal of the American Medical Association (1), Journal of Public Health Medicine (1), and Bulletin of the World Health Organisation (1). Nearly all (five out of six) of the BMJ articles were selected by trainees; the Lancet articles were divided equally between consultants and senior lecturers. Articles were presented at the journal club between four and 28 (median 11) days after publication.

Two of the 13 articles (Hope et al and Allaby) were selected because of their relevance to the commissioning policy of the Authority. The remaining articles were chosen because of their public health importance. Ten letters to the editors were generated after collective appraisal in the journal club, of which six were published. All the published letters related to original papers. Letters were sent between eight and 19 (mean 14) days after the journal club meeting, and 17 to 47 (median 22) days after the article had been published. Four letters were sent to the Lancet and one was published; three of the four letters sent to the BMJ were published; one letter was sent to each of the Journal of Public Health Medicine and the Journal of the American Medical Association, and both were published.

Trainees were less likely to produce a letter but more successful in getting letters published as lead authors; four of these letters in response to seven articles were published (success rate 57%). Consultants and senior lecturers each produced three letters in response to three articles, of which only two letters were published (success rate 33%).

Discussion

The results should be considered in the context of the short study period and the small number of meetings held. Nevertheless, the evaluation demonstrates the feasibility of using a journal club as a learning environ-
ment to practise critical appraisal skills and its potential as an effective forum to further the aims of the clinical effectiveness initiative.

We identified two important factors which influence the success of a journal club: the presence of a core team of regular attenders, and the relevance of the articles to everyday practice. It was crucial to have at least one experienced person skilled in critical appraisal among the regular attenders to steer discussions on weighing up the evidence. Our discussions were structured to allow interaction between the presenter and journal club members and we aimed to achieve a balance between selecting relevant articles for appraisal while at the same time allowing the presenter the freedom of choice. We managed this by asking the presenter to demonstrate at the beginning of each presentation that the article was of relevance to the commissioning authority or the practice of public health.

The use of outcome indicators in this evaluation provided objective measures of the journal club’s effectiveness. On the impact of evidence on commissioning

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**Table 1. Papers presented and letters published by the journal club**

| Paper or article                                                                 | Journal reference | Presenter | Date published | Date of journal club | Date letter sent | Date letter published |
|---------------------------------------------------------------------------------|-------------------|-----------|----------------|----------------------|------------------|-----------------------|
| Thompson NP, Montgomery SM, Pounder RE, Wakefield AJ. Is measles vaccination a risk factor for inflammatory bowel disease? | Lancet 1995;345:1071-4 | Senior lecturer | 29/4/95 | 10/5/95 | 24/5/95 | — |
| Hopton JL, Drugolecka M. Patients’ perceptions of need for primary health care services: useful for priority setting? | BMJ 1995;310:1237-40 | Trainee | 13/5/95 | 24/5/95 | 7/6/95 | 12/8/95 |
| Hope T, Lockwood G, Lockwood M. Should older women be offered in vitro fertilisation? | BMJ 1995;310:1435-8 | Trainee | 3/6/95 | 7/6/95 | 21/6/95 | 9/9/95 |
| Garraway M, Macleod D. Epidemiology of rugby football injuries. | Lancet 1995;345:1485-7 | Consultant | 10/6/95 | 21/6/95 | 29/6/95 | 22/7/95 |
| Allaby MAK. Contraceptive services for teenagers: do we need family planning clinics? | BMJ 1995;310:1641-3 | Consultant | 24/6/95 | 5/7/95 | 19/7/95 | — |
| Packham CJ. A survey of notified travel-associated infections: implications for travel health advice. | J Pub Hlth Med 1995;17:217-22 | Trainee | June 1995 | 19/7/95 | 7/8/95 | March 1996 |
| Warford JJ. Environment, health, and sustainable development: the role of economic instruments and policies. | Bull WHO 1995;73:387-95 | Trainee | Sep 1995 | 6/9/95 | — | — |
| Patel P, Mendall MA, Carrington D, et al. Association of 'Helicobacter pylori' and 'Chlamydia pneumoniae' infections with coronary heart disease and cardiovascular risk factors. | BMJ 1995;311:711-14 | Trainee | 16/9/95 | 20/9/95 | 5/10/95 | 27/1/96 |
| Decosas J, Kane F, Anarfi JK, Sodji KDR, Wagner HU. Migration and AIDS. | Lancet 1995;346:826-8 (commentary) | Senior lecturer | 23/9/95 | 4/10/95 | 18/10/95 | — |
| Lindfors KK, Rosenquist J. The cost-effectiveness of mammographic screening strategies. | JAMA 1995;274:881-4 | Senior lecturer | 20/9/95 | 4/10/95 | 18/10/95 | 10/1/96 |
| Vierhout WPM, Knottnerus JA, van Ooij A, et al. Effectiveness of joint consultation sessions of general practitioners and orthopaedic surgeons for locomotor-system disorders. | Lancet 1995;346:990-4 | Consultant | 14/10/95 | 18/10/95 | 31/10/95 | — |
| Guillebaud J. Advising women on which pill to take. | BMJ 1995;311:1111-12 (editorial) | Trainee | 28/10/95 | 1/11/95 | — | — |
| MacRae K, Kay C. Third generation oral contraceptive pills. | BMJ 1995;311:1112 (editorial) | Trainee | 28/10/95 | 1/11/95 | — | — |

*BMJ = British Medical Journal, J Publ Health Med = Journal of Public Health Medicine, Bull WHO = Bulletin of the World Health Organisation, JAMA = Journal of the American Medical Association*
policy, the article by Hope et al (Table 1) was assessed against the in vitro fertilisation (IVF) policy criteria of the authority. We decided that our commissioning policy on IVF remained valid but that there was still a need for the authority to continue to monitor the effectiveness of different forms of treatment. The article by Allaby on teenage family planning services was assessed as helpful and we accepted his suggestions for monitoring the effectiveness of the service. This demonstrates the integration of external evidence with professional practice, and the aim in each case was to address a particular commissioning problem. This is analogous to the use of actual patients as the basis for selecting articles for appraisal.

Generating letters to the editor and their subsequent acceptance for publication was an objective and valid outcome measure of our critical appraisal activities. There were several benefits in adopting this indicator in our evaluation: the process of producing a concise original critique is intellectually challenging, published letters contribute to the peer review process, and successful publications can be personally rewarding [4]. Since publication, several of our letters have attracted requests for reprints.

Three factors appear to be important in successfully publishing correspondence in medical journals; the journal, the type of article to which the letter relates, and the content of the letter. Although numbers are small, the Lancet was the most difficult journal in which to get letters published. Apart from the need to produce a critique of high quality, the journal also favoured quick responses, preferably within three to four weeks of an article’s publication. Two of the papers in the Lancet attracted a large number of letters and a ‘first come’ principle clearly operated. The same principle almost certainly applies to other journals although the BMJ has published criteria which include a clear deadline of six weeks after publication of the article for UK correspondents [5]. By way of compensation, the rejection letters from the Lancet were always pleasant.

Success in having a letter published also related to the type of article to which the letter referred—only letters in response to original papers were published, which is consistent with an audit of the BMJ’s correspondence columns [5]. Content was also an important factor, publication being more likely if an original point or new data were presented rather than merely identifying flaws in the article.

In conclusion, we believe that a properly run journal club can be an effective learning environment to develop and practise critical appraisal skills. Consequently, it is an important forum to further the clinical effectiveness agenda.

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