

Economics and evidence informed policy: proposed Campbell and  
Cochrane Economics Methods Group

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## **Abstract**

This paper presents the aims and progress to date of the proposed Campbell and Cochrane Economics Methods Group.

Two international collaborations exist to systematically review and update evidence about the effects of care in health (the Cochrane Collaboration) and in social policy fields of education, social welfare and criminal justice (the Campbell Collaboration). Both collaborations aim to make up to date evidence about what works available to decision makers from front line professionals to government policy makers. It is an aim of the two collaborations to use comparable methods and they are beginning to establish common methods groups. The way in which economics issues are incorporated in systematic reviews is an increasing concern for reviewers, and this is reflected in the numbers of reviewers who have joined the Cochrane Economics Methods group, and have shown interest in developing the group to become the Campbell and Cochrane Economics Methods group.

It is an aim of this group to interest economists in helping the two Collaborations to develop methods for reviewing and updating evidence about interventions in the areas covered. At present the Reviewers' Handbook says little about economics methods to be used. The challenge for the methods groups is to provide internationally acceptable, empirically valid guidance. This in turn requires members of the group to educate reviewers about economics, to educate each other about approaches and methods, to conduct original investigations into methods, and to interpret current best methodological practice for reviewers. There is a long way to go.

At present the group is a virtual association of interested people. The application to register the group formally with both collaborations was submitted in September 2003. Definition of the priorities and constitution, re building the membership network, and seeking funds for support of aspects of the work are now under way.

## **Introduction**

There is a growth in policy and professional interest in many countries in incorporating economics evidence in ‘evidence informed’ decision making (refs). The quality of the evidence ‘library’ is being increased by the growing weight of evidence about what works emerging from two international collaborations, the Cochrane and Campbell Collaborations (web sites). Such evidence of effects of programmes may be necessary, but it is not sufficient for decision makers to prioritise within limited budgets. Economic evaluation has evolved over the past four or five decades as a broad range of techniques for synthesis of data to aid decisions affecting limited resources. The application of economic evaluation has been encouraged by policy makers (treasury greenbook, CDC, other refs). However, the appropriate conduct of an economic evaluation depends on the needs of the end user. Examples of users of Cochrane reviews include local health commissioners and managers, health sector policy advisers, public spending policy advisers, international health advisers and financial policy advisers, all are potentially interested in economic analysis, but with different parameters. The appropriate methods for economic evaluation also therefore depend on the criteria for decisions which are set by the user. For example, recommended methods for valuing and discounting benefits differ between UK government departments, as does inclusion of productivity costs in the economic analysis. Since the Cochrane and Campbell Collaborations aim to provide evidence that will be useful across the world, clearly one single simple approach to economic methods for reviewers will not fit all applications. The challenge for the Cochrane and Campbell Collaborations is to provide reviews which are most useful to all economic decision makers, whether they include economic analysis or not.

The purpose of this paper is to introduce the two collaborations, describe and justify the planned joint economics methods group, and outline areas of challenge for economics and economists.

## **Background to the Campbell and Cochrane Collaborations**

The Campbell Collaboration is an international organisation committed to summarising and providing evidence, using systematic review methods, to inform

decisions about adopting interventions in the fields of social care, education and criminal justice. It is a sister organisation to the Cochrane Collaboration, which has a similar role in the field of health care.

Donald T Campbell and Archie Cochrane were both research methodologists with a mission to ensure that reliable evidence about 'what works' should be used in making practical decisions about policy. In the field of health care evaluation, Cochrane's name is widely known for his advocacy of rigorous research methodology, and especially the randomised controlled trial (RCT) as a method for minimising the bias in judging the relative effects of treatments (Cochrane 1972). In a similar way, Campbell's name is well known to those concerned with evaluation methodology in educational and other social welfare fields, as the co-author of several key research methods texts (for example Cook and Campbell 1979). Both Cochrane and Campbell warned of the dangers of being misled by poorly or uncontrolled comparisons and by the play of chance in observations of statistics based on small samples and single experiments. Both made pleas for the use of critical review of all available controlled research studies in deciding about professional practice, and before starting new primary research studies.

The Cochrane Collaboration [ <http://www.cochrane.org> ] was formed in 1992, and named after Archie Cochrane, and has held an international colloquium every year since then: the twelfth meeting will be in October 2004 in Ottawa, Canada. The Campbell Collaboration [ <http://www.campbellcollaboration.org/> ] was founded during the later 1990s, formally established in 2000 and held its first colloquium in 2001 in Philadelphia, USA.

Both organisations were founded by applied researchers specialising in evaluation of care or services, together with academic experts in research synthesis, systematic review, and statistical meta-analysis. Many of the applied researchers are also, or have been, service providers at the bedside or office (clinicians) or whiteboard (teachers) or at community level (social workers, public health specialists).

Both Collaborations have similar guiding principles. The Campbell Collaboration

*“ aims to help people make well-informed decisions by preparing, maintaining, and promoting access to systematic reviews of studies on the effects of social and educational policies and practices”.*

#### The Cochrane Collaboration

*“aims to help people make well informed decisions about health care by preparing, maintaining and ensuring the accessibility of systematic reviews of the effects of health care interventions”.*

Cochrane and Campbell reviews are intended to inform decisions, not to dictate them. The emphasis of the reviews is on the question of ‘what works best?’, with advice to reviewers not to guide readers’ decisions about best practice or policy, but to remind that there are other issues (such as resources, priorities and values) which will determine the best option in any context. Reviews are therefore, so far, designed to report effects of interventions on a range of reported outcomes, with some commentary on quality of data and absence of information, including mention of possible outcomes not reported. Occasionally, reviews include summary of economic outcomes reported, but reviewers in both collaborations are unsure whether or how to build an economic element into a Cochrane or Campbell review.

Details of the structure and organisation can be found on the two web sites (which have links to each other). Reviews that are produced by both collaborations are peer reviewed, internally and externally, and published electronically, with regular updates. The Campbell Collaboration publishes on the web site a list of registered review titles within the fields of education, criminal justice, social welfare and methods. Most are at the protocol stage, but a few are complete and results are published and can be downloaded.

The Cochrane Library has also included databases produced and published by the NHS CRD (including DARE and EED), to allow users to compare a range of evidence with a single search. This allows users to see, at one time, the systematic review of controlled trials, critical abstracts of reviews of effectiveness not necessarily based on trials, and critical abstracts of economic evaluation studies. Recent changes in publishing arrangements, as Wiley International have been given the contract for

publishing the Cochrane Database of Systematic Reviews, have not changed this convenient arrangement (Julie Glanville, personal communication).

Both collaborations have international steering committees to oversee the policy and process of publishing results of reviews. Both are internationally representative, with elected members, and the two steering groups share some members in common. The secretariat for the Cochrane Steering Committee is UK based, and that of the Campbell Steering Committee is US based. Both organisations have collaborative groups that prepare and maintain systematic reviews. In the Campbell Collaboration there are, so far, three overarching review groups or fields, for ‘education’, ‘social welfare’, and ‘crime and justice’ and these will contain more focussed groups reviewing on particular topics. The two collaborations also have Centres in different countries. So far the Campbell Collaboration has 2 in the USA and in Denmark. There are 15 Cochrane Centres. The Cochrane and Campbell Centres offer training and advice to reviewers, maintain databases of results of searches for relevant studies, maintain web materials, and provide co-ordination between review groups and publishers of the outputs of the reviews, maintain links with users of reviews and funding bodies, and provide a base for administration of the Collaboration and Colloquia.

The Cochrane Collaboration has developed a handbook for reviewers to which Campbell reviewers are referred. The text is available on the Cochrane web site and covers many hundreds of pages. This provides guidance in methods for conducting a review from beginning to end, so that it meets the agreed standards of the collaboration. The philosophy of the handbook is that the advice to reviewers is based, as far as possible, on empirical evidence about what is the most transparent, objective and least misleading approach to summarising and presenting evidence. There are many aspects of systematic review and research synthesis methodology which are being developed and tested, and the handbook is regularly updated. Both collaborations have methods groups, described in more detail below, which have as one of their tasks to maintain parts of the handbook.

It is a common but wrongly held belief that the Cochrane Collaboration restricts reviews only to RCTs. While this methodology, when well conducted, is seen as the

design most likely to minimise bias in estimating relative effectiveness of health care interventions, reviews are often designed to include, critique and synthesise data from other forms of research where trials were not considered the best approach to evaluation (measuring efficacy of diagnostic tests for example). This does however raise many more questions for methodologists advising reviewers.

## **Funding**

Both Collaborations have found much enthusiasm and some funding from national government departments charged with incorporating (better) evidence into their policy advice. The UK government health departments were and are a very important source of support to the Cochrane Collaboration, funding the UK Cochrane Centre, and the editorial base for [13??] of a total of [38??] review groups. This was agreed as part of a wider investment in developing the evidence base for health care, which also included the York NHS Centre for Reviews and Dissemination.

Both Collaborations are founded on the assumption and principle that practitioners with an interest and enthusiasm in providing excellent care will not only want to use evidence from systematic reviews, but will contribute to doing reviews as part of their professional development. This has proved to be true in some fields of health care: a considerable number of important reviews have been the result of mainly voluntary effort, and some have, at the same time, enhanced reputations for the authors of the reviews. It could be argued, however, that many of these reviews could not have emerged without the additional infrastructure for training and editorial processes. Many more Cochrane reviews have been assisted by full research funding, from health technology assessment agencies for example. It is however a condition of publication in the Cochrane Library that reviews are maintained and updated, a guiding principle of the Cochrane Collaboration, and this work seldom attracts project funding.

## **Cochrane and Campbell methods groups**

The two collaborations cover overlapping fields of interest such as health promotion, health rehabilitation, social care for disabled and frail. There are many similarities

and differences, but both collaborations have an objective to jointly develop methodological approaches to reviewing. One way of achieving this is to set up joint methods interest groups to develop methods, advise reviewers, and also influence the Collaborations' policy, in aspects of doing and reporting systematic reviews. The Cochrane Collaboration, has 11 methods groups (see Appendix A) None of these have formal funding for their Cochrane function. The groups rely, rather, on the methodologists giving time funded from other sources for this additional collaborative research opportunity, in a similar way to the involvement of voluntary effort by reviewers. It has become apparent as academic time and funds are increasingly squeezed, that this is not a reliable way to engage experts.

The Campbell Collaboration has 3 methods groups, also listed in Appendix A. So far there is one joint group [Joint Qualitative Methods/ Implementation and Process Methods Group], which was registered as a joint methods group early in 2003.

### **The proposed Campbell and Cochrane Economics Methods Group (C&CEMG)**

Although there has been a strong emphasis on summarising effectiveness or 'what works' as the main objective of reviewing, there is demand for economics expert input from within and beyond the two collaborations. Within the Collaborations, reviewers often need economics expertise. Whether they like it or not, reviewers increasingly find that they are assessing trials with economic outcome data and economic analysis, and some are seeking guidance on how to judge this aspect, whether and how to extract data, and whether and how to pool data in meta-analysis. Quality of reviews is monitored through a peer review process. Where there are economic elements in a review, this aspect needs comment from an economist.

Some reviewers are conducting economic analysis alongside their reviews, often funded by HTA agencies in different countries. They are then faced with the dilemma of how to write the protocol for both the HTA review and economic evaluation and the Cochrane or Campbell review, and facing some occasional conflicts and gaps in advice on how to synthesise and model data for the economic evaluation. Some review groups have built up expertise in economics, some having links with

economists with an interest in the specific area of policy or practice, and other reviewers have gained economics skills through their own study.

From early in the life of the Collaboration, it was recognised that the Reviewers' Handbook needed to include advice on how to deal with economics in reviews. Two workshops were funded by the Office of Health Economics in 1992 and 1993 which brought together economists and other review methods experts. These formed the beginning of a Cochrane economics methods group. Although this group met and published newsletters, this was not formally registered as a Cochrane Methods Group until 1998.

The group has been convened jointly by Miranda Mugford, Cam Donaldson, and Luke Vale with administrative co-ordination at Norwich, England. The group currently has a list of over 100 members in more than 20 countries. Two editions of the newsletter have been published since 1998, funded by the Office of Health Economics (see the web site at <http://www.uea.ac.uk/hpp/healecon/cochrane.html>). The group's major landmark so far has been a book: 'From effectiveness to efficiency: the role of economics in systematic review' (Donaldson et al 2002). This book collects together thoughts from economists and reviewers (some are both) which illustrate a range of problems of approach and methods which need to be resolved before Handbook sections can be confidently written. The research agenda arising from these pieces was summed up in the final chapter of the book. Key issues included:

- dealing with economics issues in systematic reviews of clinical studies,
- aspects of reviewing and summarising evidence from economic studies, and
- appropriate methodologies for addressing broader issues (social contexts, equity and externalities) in evaluations and reviews of health and social interventions.

Most of these are familiar to specialists in economic evaluation. Some of the issues are specific to health care, but many are not, and will be issues of even greater concern in the fields of social welfare, education and criminal justice.

When the Campbell Collaboration was formed, members of the Cochrane Economics Methods Group and members of other networks of economists in education and social

welfare, including the Economic Evaluation and Social Welfare Network (funded by the Rowntree foundation and coordinated by David McDaid, see [www.?????]), and members of the Campbell Collaboration, were canvassed to find out who would be interested in this development. Meetings, in London November 2002 (hosted by the Nuffield Trust), and at the third Campbell Colloquium in Stockholm in Feb 2003, resulted in an agreed document. This proposal for a joint Campbell and Cochrane Economics Methods Group was submitted for joint registration in August 2003. The proposed initial structure for the group has a panel of convenors representative of the broad fields covered by Cochrane and Campbell. Current membership of this group is quite UK based, and will be reviewed after a year. The C&CEMG aims to be representative across less and more wealthy countries, sectors including health, crime, education and social welfare, and also of specialisms of economics relevant to evaluation and policy analysis in all of the fields being reviewed.

Box 1: The C&CEMG aims

- Promote and support the consideration of economic issues within the research synthesis community and within systematic reviews and across the wider research community
- Develop economic methods to be used by reviewers and those involved with research synthesis which are
  - Relevant to the reviews and to consumers of reviews
  - Appropriate in terms of their application
  - Unbiased and objective in their application
- Undertake empirical research in the development and application of economic methods for studies which develop the evidence base
- Link reviewers and economists who can help with reviews or provide specialist advice
- Review the validity and quality of application of economic methods
- Disseminate valid methods and good practice
- Relate to other methods groups to ensure complementarity and avoidance of duplication.

The new group aims to provide the basis to develop support for reviewers and Steering Group in the Campbell Collaboration, and to continue support to reviewers and the Steering Group in the Cochrane Collaboration. Aims are given in Box 1. These are broadly similar to those of the Cochrane Economics Methods Group with some changes of emphasis, including a more active promotion of economics approaches among reviewers and ‘the research synthesis community’, which is now the first aim. However the scope of the group is envisaged to be much wider than we planned as the Cochrane Economics Methods Group. Although not a specific aim, the role of the methods group is not to do economic evaluations for reviewers or for users of reviews, although many members of the group may be also doing this.

This broader scope is ambitious, but reflects expressed needs of policy makers for more than just best practice as currently defined for health economic evaluation. It will need funded and focussed work and wide collaboration outside our well connected health economic evaluation and decision analytic circles. Once the group has been formally registered, the panel has agreed to actively seek funding for the programme of work laid out by the planning group.

The proposed research agenda for the first five years includes:

- find out the immediate needs of reviewers and review groups for economics input;
- establish and review methods and criteria for reviewing economics studies across sectors;
- defining appropriate economics methods for different policy questions;
- establish and review a central list of key methodological research in the field.

It is also the role of the methods and review groups to answer questions posed by the Steering Committees of both Collaborations. This is part of the regular monitoring and reporting of members and group activities, but occasionally specific work has been commissioned. Until 2003, there has been no formal funding for methods groups. Quality monitoring of Cochrane entities and outputs has underlined that reviewers are in need of more support on methodological issues: through peer review and through more additions to the handbook. The Steering Group has recently

decided that income from the Cochrane Library should in part be used to fund projects proposed by methods groups which will enhance the quality of Cochrane reviews.

### **Discussion and way forward**

This paper has presented a brief history and outline of a group which stands at the cross roads. Until now the Cochrane Economics Methods Group has been a small but potentially important link between producers of high quality evidence on effects of health care and economic methodologists who develop methods and provide analyses for decision makers. The main outputs of the group have been to summarise and keep alive the possibility for reviewers to think about economics, through newsletters, website, and workshops, books (Donaldson et al 2002), and, to report on the continuing poor quality of many published economic evaluations, and the need to apply agreed standards for quality in selecting and reviewing them (Jefferson et al 2002). In part this is amended by ensuring that Cochrane users are also able to access the NHS Economic Evaluation Database (and vice versa). The Group itself can make relatively few claims to development of high powered methods (as yet), but many individuals who have done this are members of the group. Lack of visibility and progress is the result of lack of funding.

The purpose and current agenda for the Campbell and Cochrane Economics Methods Group is defined to some extent by the objectives and focus of the two Collaborations, but raises a particular set of challenges. These include:

- to economists who use different methods for evaluation in different social sectors,
- for different sponsors, to settle on appropriate methodological advice for conduct and reporting of evaluations which cross sectors and may be used by a range of agencies'
- to the Collaborations and the Economics methods group, to define protocols and output formats for reviews to be flexible for different purposes, and to define the boundaries and linkages between these reviews and specific technology assessments or policy advisory analyses.
- to the economics methods group to provide a forum for methodological debate but also practical and useful guidance

## References

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Donaldson C, Mugford M, Vale L (editors). From effectiveness to efficiency: the role of economics in systematic review. BMJ Publishing Group. London 2002

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## Appendix A

### **Cochrane methods groups**

Applicability and Recommendations  
Health Economics  
Health-Related Quality Of Life  
Individual Patient Data Meta-Analyses  
Methodology Review Group  
Non-randomised Studies  
Prospective Meta-Analysis  
Reporting Bias Methods Group  
Screening and Diagnostic Tests (See their Methods document and software.)  
Statistical Methods  
Qualitative Methods

### **Campbell methods groups**

Statistics Methods Group  
Implementation Process Methods Group  
Information Retrieval Methods Group