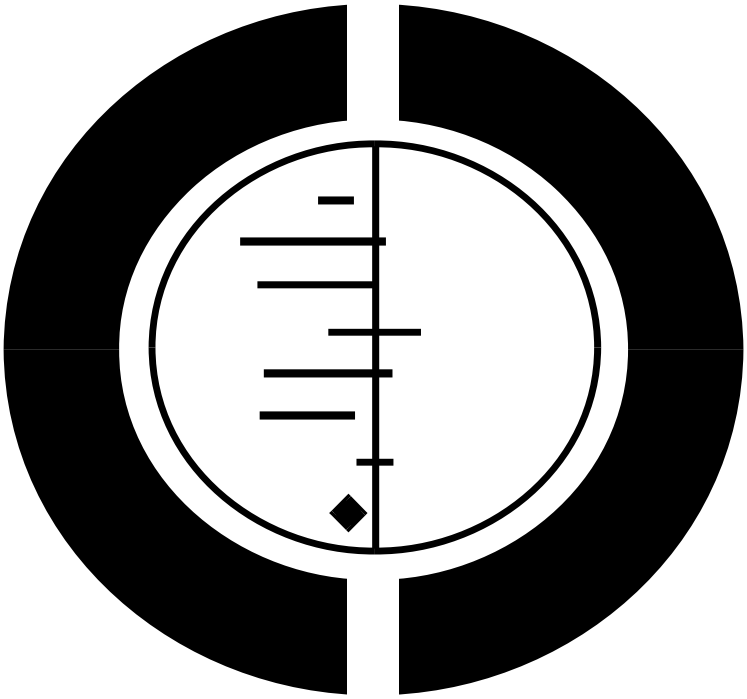

THE NORDIC COCHRANE CENTRE

Report of the first 18 months
13 October 1993 - 13 April 1995

ADDRESS:

The Nordic Cochrane Centre
Rigshospitalet
Blegdamsvej 9
DK-2100 Copenhagen Ø
Denmark

Tel: +45-35 45 55 71
Fax: +45-35 45 65 28
Email: rifopg@pop.denet.dk

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SUMMARY

Reports of original research are far too numerous and too dispersed to be of practical value. Reviews of research thus occupy a key position in the chain which links research with clinical practice. Because scientific principles have not generally guided reviews of research evidence, useless and even harmful forms of health care have not been distinguished efficiently from useful forms of care. Further, proposals for appropriate research have not been distinguished efficiently from proposals for inappropriate, or redundant, research. The Cochrane Collaboration was launched at the end of 1992 to meet this challenge. It is a scientific research association, supported by institutions and individuals in many countries. The aims of the Cochrane Collaboration are to prepare and up-date systematic reviews of randomized controlled trials (RCTs) of the effects of health care, and of other evidence when appropriate, and to make this information readily available to decision-makers at all levels of health care systems.

The Cochrane Collaboration is growing very rapidly. At present, nine Cochrane Centres are coordinating the Collaboration's activities. The Nordic Cochrane Centre at Rigshospitalet in Copenhagen opened on 13 October 1993. The main aims of the Nordic Centre are, in the Nordic region, to organize workshops and provide advice to collaborative review groups; to coordinate hand searches of RCTs in health care journals; to establish and maintain registers of RCTs and systematic reviews in collaboration with other Cochrane centres; to develop software to facilitate the data collection process; to promote the science of reviewing research; to promote awareness and use of *The Cochrane Database of Systematic Reviews*, by relating to governments, scientific societies and other professional bodies, research ethics committees, the medical research councils and other funding agencies, drug agencies, and consumer groups.

Cochrane Reviews should provide information of worldwide relevance and support from a variety of organizations is therefore to be expected. The National Health Service Research and Development Programme in the UK has taken the lead in providing support to the Cochrane Collaboration through its decision to fund the first Cochrane centre. The Danish Ministry of Health and the National Institutes of Health have provided partial support for the Nordic and Baltimore Cochrane centres, respectively. Other agencies, for example, the Swedish Council for Technology Assessment in Health Care and the European Union have contributed funds to support international coordination of the Collaboration's work.

The work of the Nordic Cochrane Centre is expected to lead to considerable benefits for the Nordic societies. Clinical practice will, to a much larger extent than today, become evidence based, leading to more rational use of health care resources. Clinical research will also become more efficient, not only by avoiding unnecessary trials but also by using improved methods, since the process of reviewing the literature systematically often leads to important suggestions of better designs for future research.

THE COCHRANE COLLABORATION

Background

It is unreasonable to expect clinicians, policy makers or patients who want reliable information about the effects of health care to unearth all the relevant evidence from reports of original research. These are far too numerous and dispersed. Reviews of research thus occupy a key position in the chain which links research with clinical practice.

It is surprisingly difficult, however, to retrieve and synthesize reliably original research results. Literature searches, e.g. on MEDLINE, often identifies only half the relevant reports. Further, the quality of the research literature leaves much to be desired. In a review of reviews it was estimated that only 6% of the literature published after 1970 is scientifically sound (1). The problems encountered relate to all stages of the research process, from design, execution, and not least to analysis and interpretation of the results.

The science of reviewing research should be performed with great care to avoid bias. Those preparing reviews have only rarely worked systematically, however (2). Usually, they have not written formal protocols or have searched systematically for all studies likely to provide unbiased information - in particular, randomized clinical trials (RCTs, ie trials in which patients are assigned to two or more interventions at random). This may explain why recommendations made by specialists sometimes are more influenced by the specialty to which they belong, rather than by the scientific evidence (3).

Because scientific principles have not generally guided reviews of research evidence, useless and even harmful forms of health care have not been distinguished efficiently from useful forms of care. A review of treatment recommendations in medical textbooks and review articles showed that advice on some life-saving therapies had been delayed for up to fifteen years, while other treatments continued to be recommended long after controlled trials had demonstrated them to be either ineffective or actually harmful (4). Further, proposals for appropriate research have not been distinguished efficiently from proposals for inappropriate, or redundant, research. For example, about 100 trials of antibiotic prophylaxis for caesarian sections have been conducted with an untreated control group during the twenty years in which it has been known that prophylaxis effectively prevents serious wound infections.

Fifteen years ago, this unfortunate state of affairs made Archie Cochrane, a distinguished epidemiologist, write (5):

"It is surely a great criticism of our profession that we have not organised a critical summary, by specialty or subspecialty, adapted periodically, of all relevant randomised controlled trials."

The first specialty to which Cochrane's approach was applied was care during pregnancy and childbirth - an area which was exceptionally poorly grounded in good evidence. Several hundred systematic reviews of primary studies were prepared through an international collaborative effort coordinated by Dr Iain Chalmers at the National Perinatal Epidemiology Unit in Oxford. As new evidence became available, these reviews were kept up to date and published electronically (6). The reviews, which also appeared in paper editions (7, 8), were very well received by professionals, managers, purchasers and - perhaps most importantly of all - people using the health services.

In 1987, the year before he died, Cochrane suggested that other specialties should copy the methods used.

Aims and principles

The Cochrane Collaboration was launched at the end of 1992 in response to Cochrane's criticism. It is a scientific research association, supported by institutions and individuals in many countries.

The aims of the Collaboration are to prepare and maintain systematic reviews of RCTs of the effects of health care, and of other evidence when appropriate, and to make this information readily available to decision-makers at all levels of health care systems. The Collaboration is guided by six principles: collaboration, building on people's existing enthusiasm and interests, minimizing duplication of effort, avoidance of bias, keeping up to date, and ensuring access.

Collaboration

The shared will to collaborate is a precondition for meeting the Collaboration's aims for two main reasons. First, no single country has sufficient resources to sift through the accumulated evidence about the effects of health care which await synthesis in systematic reviews. Individuals with the necessary skills and commitment are in short supply. Efficient international coordination is therefore important. Currently, scarce resources are being wasted because agencies are commissioning reviews of the same evidence, without first assessing whether a relevant systematic review is already available or has been commissioned. Second, collaboration is essential, since any attempt by individuals, institutions, or nations to dominate the activities of the Collaboration would have the very serious practical consequence of alienating people who could make important contributions.

The key to the success of the Collaboration is to harness the enthusiasm and energy that researchers already devote to keeping up to date in their particular areas of interest, and to provide the support they need to prepare and maintain systematic reviews. Those without such prior motivation, however, have to consider carefully the implications of committing themselves to this work. The time required to prepare valid reviews is usually grossly underestimated and lack of experience and time often forces good scientists to produce scientifically inadequate reviews. It is therefore the policy of the Collaboration not to try and recruit potential reviewers; rather, such persons should present themselves.

Organization

The Cochrane Collaboration is evolving rapidly; the estimated doubling time for number of review groups and fields is only 7 months. The challenge of coordinating the Collaboration is therefore substantial and its structures and working arrangements are under continued review, in particular, at annual Cochrane Colloquia.

Collaborative review groups

The front line contributors to the Collaboration are the *reviewers*. Each reviewer is a member of a *collaborative review group*, which consists of individuals sharing an interest in a particular topic,

e.g. stroke. Members of the review group seek funding from whichever sources they consider appropriate. Each collaborative review group is coordinated by an *editorial team* which is responsible for assembling an edited module of the reviews for incorporation in the *Cochrane Database of Systematic Reviews*. In addition, the team may select reviews for compilation in one or more specialized databases. Members of the review groups may also use their electronically published reviews as a basis for preparing printed articles and books.

Most collaborative review groups focus on health problems, e.g. breast cancer. The Collaboration addresses other interests through field coordination. A *field* may refer to a category of health service consumers, e.g. children, a group of health professionals, a setting for health care, e.g. less developed countries, or a class of interventions, e.g. physical therapies. Some collaborative review groups deal with management problems that are common to a range of health problems, for example, the organization of health services.

Cochrane Centres

Cochrane centres help to coordinate and support the Cochrane Collaboration. There are currently nine centres, located in Australia, Canada, Denmark, Holland, Italy, The UK and USA (3 centres). The shared responsibilities of the centres include:

- maintaining a directory of people contributing to the Cochrane Collaboration
- maintaining a register of published reports of systematic reviews of the effects of health care
- helping to establish collaborative review groups, by participating in exploratory meetings and helping to organize workshops, for example
- maintaining a register of systematic reviews currently being prepared or planned so that unnecessary duplication of effort can be minimised and collaboration promoted
- coordinating the Collaboration's contributions to the creation and maintenance of an international register of completed and ongoing RCTs, thus facilitating the first phase of data collection for reviewers
- preparing and developing protocols and software to systematise and facilitate the preparation and updating of systematic reviews
- making arrangements for efficient electronic transfer of reviews within the Collaboration and to electronic dissemination media
- developing policies and setting standards to maximize the reliability of the reviews
- promoting and undertaking research to improve the quality of systematic reviews
- exploring ways of helping the public, health service providers and purchasers, policy makers and the press to make full use of Cochrane Reviews
- organising workshops, seminars and Colloquia to support and guide the development of the Collaboration

- undertaking some task of service to the entire Collaboration.

Collaboration with the National Library of Medicine

The US National Library of Medicine has introduced a new publication type, *CONTROLLED-CLINICAL-TRIAL*, based on the Collaboration's definitions. This will be used for trials that have been or may have been randomized or in which some quasi-random method of allocation was used. Trials which have definitely been randomized will get the publication type *RANDOMIZED-CONTROLLED-TRIAL*. Any trials identified through the work of the Collaboration, for example, by systematically hand searching journals back to 1950, will be made accessible through MEDLINE, even if the reports have been published in journals not indexed for MEDLINE.

Methods groups

The demand for better methods for selection, appraisal, synthesis and dissemination of health care information is being met by Cochrane methods groups of scientists. Methods groups are currently grappling with the following areas:

- definition and identification of RCTs
- registries of research into RCTs
- assessment and standardized reporting of RCTs
- methodologic standards for systematic reviews
- statistical methods for synthesizing the results of RCTs
- methods for economic analyses
- methods for presenting information to consumers
- methods for establishing "levels of evidence"
- methods - including electronic - of disseminating reviews.

Colloquia

Annual Cochrane Colloquia are held to help coordinate and develop the work of the Collaboration, and to make important policy decisions. The programme includes workshops and discussion groups on various aspects of the creation, publication and application of systematic reviews, a scientific programme and a business meeting.

Steering Group

The Cochrane Collaboration Steering Group (CCSG) governs the Collaboration. It is comprised of representatives of review groups, consumers, Cochrane centres, and fields; a chair; and other individuals at its discretion. The CCSG carries out the following specific functions:

- assessment and formal registration of review groups, centres, fields, methods groups, and other Cochrane entities
- periodic evaluation of Cochrane entities and their renewal or deregistration
- periodic evaluation of the reports of Cochrane Review Groups
- negotiation of copyright and other matters with journals and other instruments of dissemination
- negotiation of relationships with organizations that can further the Cochrane objectives
- arbitration and solution of disputes within the Collaboration
- publication of a Cochrane newsletter
- up-dating and maintenance of the Cochrane Collaboration Handbook
- seeking and accepting of monies for the pursuit of Cochrane objectives
- holding of periodic business meetings for members of the Collaboration.

The CCSG concentrates on principles and strategies, and delegates tactics and operations to other Cochrane entities. The present composition of the Steering Group is:

David Sackett, Oxford (chairman)
Carl Counsell, Collaborative Review Group on Stroke
Hilda Bastian, Australia (consumer representative)
Iain Chalmers, UK Cochrane Centre
Kay Dickersin, Baltimore Cochrane Center
Peter Gøtzsche, Nordic Cochrane Centre
Brian Haynes, Canadian Cochrane Centre
Alessandro Liberati, Italian Cochrane Centre
Andy Oxman, Norway (managing editor of the Handbook)
Chris Silagy, Australasian Cochrane Centre

Communication

Facilitating efficient communication within the Collaboration and to users of reviews is a key responsibility shared by the Cochrane centres. *The Cochrane Database of Systematic Reviews*, and the publications derived from it, will provide a powerful mechanism for information exchange. Software exists (*Review Manager*) for preparing Cochrane systematic reviews and for electronic

transferal of these. *The Cochrane Collaboration Handbook* provides overall guidance; it is freely available on Internet via an anonymous FTP server. The price for using Internet is very low and communication is instant; all Cochrane reviewers and supporters who do not currently have Internet access are therefore encouraged to get it.

The principles of the Collaboration are described in an information brochure and in *The Cochrane Database of Systematic Reviews*. A newsletter, issued 3-4 times a year, informs participants and others about the development of the Collaboration and specific activities.

A directory of people contributing to the Collaboration with information about their functions has been established.

Support

Since Cochrane Reviews provide information of worldwide relevance, support from a variety of organizations is to be expected.

Cochrane entities, e.g. centres, editors, reviewers, and field coordinators, must find the resources they require. The National Health Service (NHS) Research and Development Programme in the UK has taken the lead through its decision to fund the first Cochrane centre. The Danish Ministry of Health and the National Institutes of Health have provided support for the Nordic and Baltimore Cochrane centres, respectively. Other agencies, for example, the Swedish Council for Technology Assessment in Health Care and the European Union have contributed funds to support international coordination of the Collaboration's work.

The CCSG collaborates with the Board of Trustees of the Archie Cochrane Trust in developing and applying guidelines for interaction with benefactors and provides an accounting to the other Cochrane entities of disbursed funds.

Dissemination of Cochrane Reviews

The guiding principles for dissemination are:

- to obtain the widest possible distribution and accessibility at reasonable price
- to maintain the integrity of the individual reviews
- to give credit where credit is due - to reviewers, editors and funders

Cochrane Reviews have a standard format consisting of:

- a cover sheet, with addresses of the reviewer(s) and of the editorial team, and the sources of support
- a structured report of the review, with background, objective, materials and methods, results, discussion, and conclusions about implications for practice and research
- full citations of reports of studies incorporated in the review, and of reports that were

excluded

- tabulation of the characteristics of the trials, including methodological quality
- tabulation of the results of the review, with statistical syntheses (meta-analyses) and graphs when appropriate.

The Cochrane Database of Systematic Reviews

Because of the obvious advantages of electronic publication for systematic reviews which require maintenance as new evidence emerges and as mistakes are discovered, *The Cochrane Database of Systematic Reviews* is disseminated online via Internet, on CD-ROM and on floppy disk. Successive versions of a review and valid criticisms are archived electronically. Other publication forms that use Cochrane reviews are made aware of substantive updates, e.g. as letters to the Editor. Software for interrogating and displaying the reviews is under development. Searches will be possible both as free text and as indexed terms (MeSH).

Reviews contained in the main database are being compiled for dissemination as specialised databases on floppy disk (e.g. as part of the series *Cochrane Updates on Disk*). The prototype - *The Cochrane Pregnancy & Childbirth Database* - was released in May 1993; it is updated semiannually.

Derivative publications

Publication of Cochrane Reviews on paper is encouraged. Concurrent electronic and paper publication has been made possible by agreements between the Cochrane Collaboration and the *British Medical Journal*, the *Lancet,* and other journals. The paper version will be modified according to the journal's policy.

Reviewers are free to publish shortened or elaborated versions of their reviews, provided that the publication explains the relationship to the original Cochrane Review. Others wishing to publish abridged or expanded versions of a Cochrane Review need to get permission from the collaborative review group responsible for it.

Copyright and royalties

Cochrane Reviews will not be subject to any exclusive copyright arrangements. The Cochrane Collaboration will hold a non-exclusive copyright for each review, on behalf of and jointly with the reviewer(s) and the collaborative review group concerned. Anyone outside the Collaboration would be free to publish such a review provided that (1) it is published in its entirety, (2) it is correctly attributed to the author, the collaborative review group, and the Cochrane Collaboration, (3) sources of support are acknowledged, and (4) in the case of electronic publication that it is kept up to date. The Collaboration may require royalty payments from publishers and distributors of Cochrane Reviews. The royalties will be modest, so that they do not hinder dissemination of the reviews. They will be used to further the work of the Collaboration.

THE NORDIC COCHRANE CENTRE

History

The UK Cochrane Centre opened in November 1992. In February 1993, a European group headed by Carol Lefebvre and Iain Chalmers at the UK Cochrane Centre filed a proposal for a concerted action under the European Union's BIOMED programme. The objectives were to ensure that information published in European general health care journals on completed, ongoing and planned RCTs in Europe was contributed to an International Register of RCTs of health care and that this Register was made easily accessible to those preparing systematic reviews and to those planning new research. The application was granted in July 1993.

It was envisaged in the application that Denmark, represented by Peter Gøtzsche, should cover the other Nordic countries. Following meetings at the UK Cochrane Centre, and urged by international colleagues, Peter Gøtzsche therefore proposed to the managing director at Rigshospitalet, Christian Nissen, that a Cochrane Centre be established in Denmark. The proposal was well received and Peter Gøtzsche started working on October 1, 1993, in a permanent position, with an agreement that 50% of his time be devoted to work for the Cochrane Collaboration.

Discussions with Lars Werkö and Egon Jonsson, Swedish Council for Technology Assessment in Health Care (SBU); Arild Bjørndal, National Institute of Public Health in Oslo; and Marjukka Mäkelä, the National R & D Centre, Helsinki, led to the final proposal that the planned centre in Copenhagen should be a Nordic one, servicing all five Nordic countries. The idea of a Nordic Cochrane centre based in Denmark was supported locally by the Danish Ministry of Health; the Danish Medical Research Council (Mikael Rørth); the Danish Hospital Institute (Torben Jørgensen); Institute for Disease Prevention (Thorkild IA Sørensen); Departments of Biostatistics and Theory of Medicine, University of Copenhagen (Niels Keiding and Henrik R Wulff); the municipality of Copenhagen (Erik Juhl); Hvidovre Hospital (Per Christoffersen); and Ugeskrift for Læger (Einar Krag). The Nordic Cochrane Centre opened on 13 October 1993.

Aims

The general aims of the Nordic Cochrane Centre support the aims for the Cochrane Collaboration. More specifically:

- to identify and assist people willing to participate in collaborative review groups as reviewers or module editors

- to organize workshops and seminars and provide advice and support to collaborative review groups

- to coordinate full-text searches (hand searching each issue) of RCTs in specialist and general health care journals published in Denmark, Finland, Iceland, Norway, and Sweden. The Centre provides advice and support and is responsible for checking whether the articles meet the eligibility criteria and are correctly downloaded. The Centre is also responsible for creating bibliographic records for articles not contained in MEDLINE

- to establish and maintain registers of RCTs and systematic reviews in collaboration with other Cochrane centres

- to promote methodological research, especially on bias and on non-specific (placebo) effects of health care

- to promote awareness and use in the Nordic countries of the information contained in *The Cochrane Database of Systematic Reviews*.

Past membership of the Advisory Board

The Advisory Board of the Nordic Cochrane Centre provides overall guidance. Three Advisory Board meetings have been held, on 13 October 1993 in Copenhagen, 25 May 1994 in Stockholm, and 27 March 1995 in Helsinki. Initially, the members were:

Professor Lars Werkö (chairman), SBU, Stockholm
Dr Arild Bjørndal, National Institute of Public Health, Oslo
Dr Marjukka Mäkelä, National R & D Centre, Helsinki
Professor Henrik R. Wulff, University of Copenhagen
Dr Peter C. Gøtzsche, The Nordic Cochrane Centre
Dr Deborah Marshall, SBU, Stockholm
Dr Iain Chalmers, The UK Cochrane Centre
Professor Thorkild I. A. Sørensen, Institute for Disease Prevention, Copenhagen
Professor Niels Keiding, University of Copenhagen
Medical Director Hans Jørgen Buchardt Hansen, Rigshospitalet, Copenhagen

It was decided at the second meeting to reduce the size of the Board (see p. 21 for current composition).

The Nordic Cochrane Network

The Nordic Cochrane Network gives support to the Nordic Cochrane Centre. The contact persons are: Dr Deborah Marshall, SBU (tel: +46-8 611 19 13, fax: +46-8 611 79 73); Chief Librarian Arne Jakobsson, Swedish Institute for Health Services Development (SPRI) (tel: +46-8 702 46 00, fax: +46-8 702 46 61); Dr Arild Bjørndal (tel: +47-22 04 24 09, fax: +47-22 35 36 05); Dr Marjukka Mäkelä (tel: +358-0 39 67 22 90, fax: +358-0 39 67 22 27); and Professor Jóhan Sigurðsson, Reykjavik (tel: +354-1 62 96 50, fax: +354-1 62 20 13).

Activities 13 October 1993 - 13 April 1995

Hand searching of RCTs

There are at least 150 health care journals published in the Nordic countries of which around 50% are published in Denmark, 20% in Sweden, 20% in Norway, 10% in Finland, and 2% in Iceland. Hand searching of journals has started in all five countries. In Denmark and Sweden, searching of general medical journals is almost complete; a large number of invaluable studies not currently in MEDLINE have been identified.

Status of the national medical associations´ journals: *Ugeskrift for Læger* has been searched by the

editor from 1978 to 1993; a Cochrane volunteer, Kirsten Lone Jensen, is searching other issues back to 1948, as well as *Danish Medical Bulletin* and *Nordisk Medicin*. *Läkartidningen* has been searched. *Tidsskrift for Den norske lægeforening* is being searched by the editor. *Laeknabladid* is expected to become ready in June. Searching of *Suomen Lääkärilehti* has not yet started.

Arne Jakobsson's group at the Swedish Institute for Health Services Development (SPRI) is searching both general and specialist journals in Sweden and will write MEDLINE abstracts for those RCTs that are not currently in MEDLINE, also from the other Nordic countries.

Review groups

Review groups with Nordic leadership have been formed or are under consideration within:

stroke (Kjell Asplund, Sweden, editor)
hepatology (Christian Gluud, Denmark, facilitator)
tuberculosis (Vinod Diwan, Sweden, facilitator)
effective professional practice (Andy Oxman, Norway, editor)
inflammatory bowel diseases (Jørgen Rask Madsen, Denmark, editor)
neurosis/depression (Per Bech, Denmark, facilitator)

Additional review groups and fields, with Nordic participation, have been formed or are under consideration within a number of areas but since the Cochrane Directory of persons and entities does not yet allow extraction of the current status for such individuals, the following list may be incomplete:

acute respiratory infections
asthma
chronic wounds
diabetes
epilepsy
incontinence
malaria
musculoskeletal diseases
primary health care

Methods groups

Andy Oxman is overall coordinator for the methods groups. The Nordic Cochrane Centre and Network participate in several of them:

empirical methodological studies group (ToRTs)
complex interventions
individual patient data
RCT quality assessment (SORT)
statistical methods
informatics
placebo
continuous data
software development

Workshops and exploratory meetings

Courses on systematic reviews for SBU reviewers have been held in October 1993, August 1994, and in March 1995. Two PhD courses were held in April 1994. A workshop for hand searchers at SPRI was held in May, 1994. Exploratory meetings have been attended within rheumatology, gastroenterology/hepatology, and tuberculosis.

Research associates affiliated with the Nordic centre

It was emphasized at the first Advisory Board meeting that PhD students and other researchers from the Nordic countries should be involved in research at the Centre. The following researchers have so far been involved:

Dr Arne Ohlsson, Perinatal Clinical Epidemiology Unit, University of Toronto, has started to work on a dr. med. thesis concerning methodological research of relevance for systematic reviews; the thesis will be submitted to the University of Copenhagen.

Medical student Palle Christensen has been tutored on a series of meta-analyses of genetic differences in drug metabolism and disease.

Dr Pia Therkildsen, is being tutored on the PhD project "Clinical research behaviour in Denmark". The aims are to study whether studies that have been notified at a research ethics committee have subsequently been published; whether published studies have previously been notified; and the level of agreement between research protocols and publications.

Fil. cand. Stephan Mulward has submitted a manuscript on a systematic review of sample size of RCTs published during the period 1976 to 1991. He is currently attached to the Centre on external funding while doing a meta-analysis on the effect of corticosteroids in rheumatoid arthritis.

A student of biostatistics, Lars Endahl, has analyzed a multicentre, dual observer trial of slow-acting antirheumatic drugs, which examines the possible bias caused by unblinding.

Two computer scientists, Jakob Krog and Rasmus Moustgaard, have been involved in a bibliometric analysis of Danish medical research and in the managing of the Centre's computers and databases.

Two students from the Royal Danish School of Pharmacy, Majbritt Sjøgren and Dorte Nielsen, are working on a pharmacoeconomic analysis of zidovudine in HIV infection which involves a systematic review.

Publications

Publications by staff at the Centre and publications describing the Cochrane Collaboration are listed in Appendix 1.

Meetings and courses addressed by staff at the Centre

Listed in Appendix 2.

Visitors received at the Centre

Listed in Appendix 3.

FUTURE DEVELOPMENT OF THE NORDIC COCHRANE CENTRE

Why is a Nordic Cochrane Centre necessary?

To accomplish the ambitious goal of collecting all RCTs in health care - the number of which has been estimated to approach one million - and performing systematic reviews, updating and disseminating them, the combined efforts of a large number of institutions and people are necessary. The idea of establishing Cochrane centres in several countries is to facilitate this collaboration.

Because of the rapid development of The Cochrane Collaboration much work at the Nordic centre is already devoted to coordination within the Collaboration itself, approval of Cochrane entities, and policy formation. In addition, there is a considerable volume of correspondence, telephone calls, and meetings. It is perceived as an advantage to continue to have a Nordic centre rather than a Cochrane centre in each of the five countries, since the latter option would lead to much duplication of work and thereby to unnecessary use of resources. Compared with other Cochrane centres, the Nordic centre is servicing a population of approximately the same size as the centres in Canada and Australia.

Strong local bases in each Nordic country are necessary to influence national health services, however. Such bases are already in existence and they constitute, together with the Nordic centre, the Nordic Cochrane Network.

It was agreed at the second Advisory Board meeting that the Nordic Cochrane Centre is an established reality that should be supported from all Nordic countries in the future. Plans for the development of the Nordic Cochrane Centre should be considered and followed up on a long-term basis, since it may take two decades or more to assemble and synthesize the existing results of RCTs.

The Centre (Peter Gøtzsche) and Network (Andy Oxman) are represented at the Steering Group of the Cochrane Collaboration and will also in the future contribute to decisions taken there and at the annual Cochrane Colloquia as well as receive input for its future development.

Proposed future objectives

The Nordic Cochrane Centre will continue to collaborate with others, in the Nordic countries and elsewhere, to facilitate preparation, maintenance, and dissemination of systematic up-to-date reviews of RCTs of health care. This is expected to lead to considerable benefits for the Nordic societies. Clinical practice will, to a much larger extent than today, become evidence based, leading to more rational use of health care resources. Clinical research will also become more efficient, not only by avoiding unnecessary trials but also by using improved methods, since the process of

reviewing the literature systematically often leads to important suggestions of better designs for future research.

The main tasks for the Centre will be:

- to promote awareness and use of the information contained in Cochrane reviews, as these become available through *The Cochrane Database of Systematic Reviews*. In this work, the Centre will relate to governments, scientific societies and other professional bodies, research ethics committees, the medical research councils and other funding agencies, drug agencies, and consumer groups

- to provide an up-to-date source of references to existing meta-analyses, a review of which will be a logical starting point for anyone contemplating to do clinical research or a meta-analysis, as well as offering guidance on strategies for searching for trials.

- to identify and assist people willing to participate in collaborative review groups as reviewers or module editors

- to organize workshops and seminars and provide advice and support to collaborative review groups

- to coordinate full-text searches (hand searching each issue) of RCTs in specialist and general health care journals. The Centre will provide advice and support and will be responsible for checking whether the articles meet the eligibility criteria and are correctly downloaded. The Centre will also be responsible for creating bibliographic records for articles not contained in MEDLINE

- to establish a model for technology assessment in which the main emphasis is on a systematic review of the literature. In this work, collaboration with the Swedish Council for Technology Assessment in Health Care and other interested parties is envisaged

More generally, without geographical limitations, the Centre will seek:

- to establish and maintain registers of RCTs and systematic reviews in collaboration with other Cochrane centres

- to contribute to the infrastructure, coordination and development of the Cochrane Collaboration

- to promote methodological research, especially on bias and on non-specific (placebo) effects of health care. The body of empirical research relevant to the methodology of systematic reviews of RCTs remains relatively small, but the *Cochrane Database of Systematic Reviews* will become an invaluable resource in the attempt to rectify this deficiency

- to explore how people using the health services can become more involved in the work of the Cochrane Collaboration.

These objectives will be modified, as required, at the Advisory Board meetings for the Centre.

The Nordic centre is also responsible for the Baltic states, Poland, the former Soviet Union, and

Mongolia. In these regions, the main tasks of the Centre will be to provide assistance to hand searchers, reviewers and editors.

Current staff and funding

Staff:

Director:	Peter C. Gøtzsche
Administrator/secretary:	Kirsten Lone Jensen
Technology assessor:	Inger Schou

Funding:

Rigshospitalet:	135.000 kr/year for 3 years
Danish Ministry of Health:	100.000 kr/year for 3 years
European Union (BIOMED Programme):	145.000 kr/year for 3 years

A separate grant of 500.000 kr has been obtained from Rigshospitalet for technology assessment with emphasis on the systematic reviewing of the research literature, according to Cochrane principles. In addition, Rigshospitalet is providing the salary for Peter Gøtzsche.

Proposed future staff

Staff at the Nordic Cochrane Centre

Staff corresponding to 5½ full-time persons is proposed.

Director: Peter C Gøtzsche

The Director will have overall responsibility for the management of the Centre.

Administrator/Secretary: Kirsten Lone Jensen

The Administrator/Secretary will be responsible for:

- working with the director in recruiting reviewers and maintaining liaison with them
- providing information on the Collaboration and other general guidance
- helping reviewers with hand searches and on-line searches
- maintaining a directory of hand searched Nordic journals and liaison with the Baltimore Cochrane Center in this respect
- helping researchers affiliated with the Cochrane Collaboration with searches in the *Cochrane Database of Systematic Reviews*
- providing information and assistance to affiliated institutions in the Nordic countries, the Baltic states, Poland, the former Soviet Union and Mongolia, including electronic file

transfers

- providing general secretarial assistance, as described below

Secretary: Vacant (50% time)

The secretary will be responsible for:

- correspondence, telephone, fax, and e-mail communication, ordering of office supplies, etc.
- organising practical arrangements such as travel and accommodation
- maintenance of budgets
- maintenance of the directory of names, addresses, interests, etc, of people affiliated with the Centre and living within the Centre´s geographical area of responsibility

Technology Assessor: Inger Schou

The Technology Assessor will be responsible for:

- introducing technology assessment at Rigshospitalet in accordance with the research policy for the hospital
- developing a Cochrane model for technology assessment in which the main emphasis is on a systematic review of the research literature in accordance with Cochrane principles
- developing software for efficient electronic literature searching, classification and ordering of the retrieved abstracts to facilitate the data collection phase for Cochrane reviewers
- dissemination of information on the Cochrane Collaboration to agencies and persons working with technology assessment or quality assurance to further the idea that such activities as far as possible should be based on systematic reviews of the scientific evidence
- working with the director and the administrator/secretary in recruiting reviewers and maintaining liaison with them and providing information on the Collaboration and other general guidance

Information Technology Manager: vacant

The Information Technology Manager will be responsible for:

- managing the Centre's computers and databases and securing efficient and rapid communication with, for example, other Cochrane Centres, users of reviews, institutions, on-line databases, review groups, and module editors. The Cochrane Directory of persons and entities is not sufficiently developed at present, which decreases the efficiency of the work. Thus, improvement of this important tool, as a service to the whole Collaboration, will be the top priority of The Information Technology Manager

- developing data query and retrieval systems, systems for statistical analysis and display functions, report generation facilities, data transfer and communication facilities. These tasks are particularly important, since the Nordic Cochrane Centre and Network is responsible for development of the Cochrane Collaboration Handbook and the Review Manager

- assisting the Technology Assessor in developing software for efficient electronic literature searching, classification and ordering of the retrieved abstracts to facilitate the data collection phase for Cochrane reviewers

- participating actively in other development work for the Collaboration

- assisting in training programmes

The electronic part of the Collaboration's work is constantly developing, in form as well as magnitude. Two computer scientists have already been working with the Centre on an ad hoc basis. To be able to join progress efficiently and to serve collaborating institutions efficiently, more permanent professional assistance and guidance is necessary. The best way to secure that both general and local needs will be addressed in this development work seems to be to appoint an Information Technology Manager at the Nordic centre, so that optimal use can be made of the databases used by the Collaboration.

Research Fellow

The Research Fellow will be responsible for:

- doing methodological research of relevance to the Cochrane Collaboration to improve the quality and reliability of its reviews and the efficiency with which they are produced

Fellowships will be one-yearly, with a possibility of extension twice, for a maximum length of 3 years. The fellow need not be physically located at the Nordic centre, but could, for instance, work at one of the collaborating institutions within the Nordic Cochrane Network.

There is a large need for methodological research within the science of reviewing research. The first of the following examples is an urgent one:

- how should continuous data, often with insufficient information on dispersion, be combined?

- how should one decide whether a collection of trials are of too poor quality to allow statistical synthesis?

- which of the many possibilities for bias in clinical research are so important that the reviewer need to take account of them?

- which importance has the choice of statistical model (fixed, random or mixed) and of outcome measure for the interpretation of the results?
- are there differences of importance between reviews of articles and reviews using individual patient data?

- interobserver variation when several reviews are performed on the same data
- comparison of outcomes of reviews performed according to protocols written by persons with and without subject expertise; do experts tend to be biased?
- which stopping rules should be adopted for the conclusion that further trials would be unethical?
- do early stopping rules, e.g. in cancer trials, lead to an overestimation of the effect?
- how large and variable is the bias introduced in case-control studies and cohort studies, compared with results from randomized trials?
- is it possible, in some settings, to use surrogate outcomes rather than clinical ones (e.g. glycosylated haemoglobin rather than diabetic complications)?

Collaborators at affiliated institutions

Norway: Andy Oxman and Arild Bjørndal at the National Institute of Public Health in Oslo are members of the Advisory Board of the Nordic Cochrane Centre. Andy Oxman is managing editor of the Handbook and the Review Manager and is coordinator of the Cochrane methods groups. He is responsible for holding courses for SBU reviewers and contributes to workshops for Cochrane reviewers. The Institute helps the Nordic Cochrane Centre with other tasks on an *ad hoc* basis; as an important example, the annual Cochrane Colloquium for 1995 will be convened by Arild Bjørndal in Oslo, in collaboration with the Nordic Cochrane Centre.

Sweden: Lars Werkö from The Swedish Council for Technology Assessment in Health Care (SBU) is chairman of the Advisory Board of the Nordic Cochrane Centre. The SBU has funded a full-time person to work for a limited period of time with Arne Jakobsson at the Swedish Institute for Health Services Development (SPRI) to assist with hand searching and to write MEDLINE abstracts. The SBU has made it obligatory for their reviewers to attend a two-day Cochrane course on systematic reviews.

Finland: Marjukka Mäkelä from the National R & D Centre (STAKES), Helsinki, is a member of the Advisory Board of the Nordic Cochrane Centre. She has undertaken the responsibility of having the general Finnish journals hand searched and to inform Finnish colleagues about the Cochrane Collaboration.

Iceland: Jóhann Sigurðsson is a member of the Advisory Board of the Nordic Cochrane Centre. He has undertaken the responsibility of having the general Icelandic journals hand searched and to inform Icelandic colleagues about the Cochrane Collaboration.

Proposed budget and timescale

It is proposed that the Centre be provided with financial support for five year periods, with review of the Centre's work 1-2 years before each new period. Apart from this evaluation, the Centre's work will also be reviewed annually by the Cochrane Collaboration Steering Group.

The table shows the budgeted amount per year, in 1000 D.kr.

Salaries, 5½ persons	1770
Maintenance of equipment	20
Software	10
MEDLINE searches	10
Telephone/fax/e-mail	10
Cochrane brochures and other printed material	20
Travels and accommodation	100
Advisory Board meetings, incl. travel	40
Other meetings	20
Books, prescriptions	10
Workshops and courses	150
Other expenses	10
Total	2170
Total for five years	10850

A reasonably large travel budget is necessary, allowing occasional travels also for non-employed persons affiliated with the Centre.

Future activities

Hand searches

Hand searches of general medical journals in the Nordic countries will continue, also on a prospective basis as new issues become published. Hand searches for RCTs in journals published in Poland, the Baltic states, the former Soviet Union and Mongolia will be started when appropriate collaborators in these areas have been identified; they should begin early in 1996.

The RCTs identified so far will become downloaded from MEDLINE before August 1995 and forwarded to the Baltimore Cochrane Center so that they can be tagged with the appropriate publication type for the January 1996 edition of MEDLINE.

Workshops and courses

A workshop for reviewers of inflammatory bowel diseases and hepatobiliary diseases is planned on 17-18 Feb 1996 in Copenhagen. Workshops are also envisaged within the next year for the review groups in tuberculosis and neurosis/depression.

A course for students of technology assessment, hosted by the SBU, will take place in Sweden on June 8-10, 1995.

International meetings

Exploratory meetings for review groups are so far scheduled for hepatobiliary diseases (Aug 19, 1995 in Copenhagen) and for neurosis/depression (Oct 9, Oslo).

Joint Meeting, Danish Society for Epidemiology and The Nordic Cochrane Centre. Meta-analyses in epidemiology: methods and interpretation. June 2, 1995.

The 1995 meeting of the International Society for Technology Assessment in Health Care in Stockholm, June 5-7 (organised by the SBU)

The philosophy of sciences with respect to meta-analysis will be addressed at the 4th Nordic Congress for Librarians in Copenhagen, Aug 24, 1995.

Arild Bjørndal will have overall responsibility for The 1995 Cochrane Colloquium, October 5-8, in Oslo; he will be assisted by Andy Oxman (responsible for the workshops) and Peter Gøtzsche (responsible for the scientific session).

Dissemination

To prevent frustration, it is the policy of the Collaboration not to try and recruit potential reviewers; rather, such persons should present themselves (see p. 3). To facilitate this happening, however, information is obviously needed. In the first 18 months of the Centre's existence, a number of publications and meetings have addressed the Collaboration in general and the Nordic centre in particular (see Appendices 1 and 2) and there is now a widespread awareness of both in the Nordic communities.

The first edition of *The Cochrane Database of Systematic Reviews* will be launched by the British Minister of Health on April 26, 1995. The information should therefore from now on be directed against obtaining a widest possible usage of the Pregnancy and Childbirth Database and *The Cochrane Database of Systematic Reviews* in the Nordic countries, especially among drug agencies, scientific societies and other professional bodies, research ethics committees, the medical research councils and other funding agencies, and consumer groups.

A column in general medical journals describing important news in the Cochrane database could be part of the dissemination strategy. The Danish and the Norwegian Medical Journals have already declared their interest, and this issue will therefore be pursued during 1995.

Commissioned reviews

Commissioned reviews is a possibility which may be facilitated through the Centre. This will be discussed further with the SBU. The basis for an agreement could be the division of roles in the UK between the UK Cochrane Centre and the NHS Centre for Reviews and Dissemination in York.

Cochrane Collaboration Handbook

As a service to the entire Collaboration, Andy Oxman will continue to work as Managing Editor of The Cochrane Collaboration Handbook and of the Review Manager.

Research

Methodological research on the science of reviewing research is scarce and it will continue to be an important agenda for the Centre. It is envisaged that further PhD students will become involved. The Centre and Network will also continue their contribution to the various Cochrane methods groups.

The Nordic centre will participate in the important international effort to establish registries of planned and ongoing RCTs, which will minimize the effect of publication bias. In Sweden, the Medical Research Council might accept to fund such a registry.

Future composition of the Advisory Board

The purpose of the Advisory Board for the Nordic Cochrane Centre is to provide guidance in all matters related to the work of the Centre, to accomplish as efficiently as possible the goals of the Cochrane Collaboration within the Nordic countries and the other countries for which the Nordic centre is the reference centre. In addition to the Advisory Board, the Steering Group of the Cochrane Collaboration will monitor the work of the Centre on an annual basis.

It was decided at the first Advisory Board meeting to rotate the meetings among the Nordic capitals. The composition and optimal size of the Advisory Board was discussed at the second Advisory Board meeting. It was agreed that experts should be invited on an *ad hoc* basis, apart from Andy Oxman, who, as managing editor of the Handbook and the Review Manager, should routinely be invited to the meetings. According to the decisions taken at the last Steering Committee meeting, a consumer representative is obligatory. At the third Advisory Board meeting it was decided that a new Advisory Board will be elected in October 1996. The members should be appointed by the Nordic Ministers of Health on 3 year terms, with one possible renewal. All Nordic contact persons should therefore ask their minister for appointment of the current persons in the Advisory Board.

The composition of the current Advisory Board is:

Professor Lars Werkö, SBU (chairman)
Professor Henrik Wulff, University of Copenhagen
Dr Marjukka Mäkelä, the National R & D Centre, Helsinki
Professor Jóhan Sigurðsson, Reykjavik (since March 95)
Dr Arild Bjørndal, National Institute of Public Health, Oslo
Ms Ellen-Margrethe Skou, Central Ethics Committee, Copenhagen (since March 95)
Dr Andy Oxman, National Institute of Public Health, Oslo (ex-officio member, since March 95)

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3. Chalmers TC, Frank CS, Reitman D. Minimizing the three stages of publication bias. JAMA 1990; 263: 1392-5.
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8. Enkin M, Keirse MJNC, Chalmers I, eds. A guide to effective care in pregnancy and childbirth. Oxford: Oxford University Press, 1989.

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I am grateful to a number of people who have supported the idea of establishing a Nordic Cochrane Centre. I apologize for any inadvertent omissions.

Dr Iain Chalmers invited me to Oxford on several occasions and convinced me of the importance of leaving clinical practice to join the Collaboration. Encouragement was also received early on from Prof Jean-Pierre Boissel, Hôpital Neuro-cardiologique, Lyon; Prof Silvio Garattini, Mario Negri Institute, Milano; Prof Egon Jonsson and Prof Lars Werkö, Swedish Council for Technology Assessment in Health Care; Dr Arild Bjørndal, National Institute of Public Health in Oslo; and Dr Marjukka Mäkelä, the National R & D Centre, Helsinki.

I owe special thanks to the former Managing Director of Rigshospitalet, Christian Nissen, who not only welcomed the proposal for a Nordic Centre at his hospital but also helped to provide initial funding from the hospital and the Danish Ministry of Health. Local encouragement was received also from Prof Mikael Rørth, the Danish Medical Research Council; Mr Torben Jørgensen and Dr Finn Børlum Kristensen, the Danish Hospital Institute; Prof Thorkild IA Sørensen, Institute for Disease Prevention; Prof Niels Keiding, Department of Biostatistics and Prof Henrik R Wulff, Department of Theory of Medicine, University of Copenhagen; Health Director Erik Juhl, the municipality of Copenhagen; Prof Per Christoffersen, Hvidovre Hospital; and Chief Editor Einar Krag, Ugeskrift for Læger. More recently, Dr Lone de Neergaard, The Danish National Board of Health, and Prof Mogens Hørder, University of Odense, have expressed an interest in collaboration with the Centre.

Other individuals to whom I owe special gratitude include Dr Thomas Chalmers, Prof Kay Dickersin, Dr Christian Gluud, Prof Brian Haynes, Dr Jørgen Hilden, Prof Andrew Herxheimer, Dr David Moher, and Dr Andy Oxman.

A number of passages of text in this document are similar to passages in the *Cochrane Collaboration Handbook* and the *Report of the work of The UK Cochrane Centre 1 Octo-ber 1992 - 30 June 1994*. This is in good agreement with the Collaboration's philosophy: to avoid duplication of effort and waste of resources by sharing one's achievements with others.

APPENDIX 1. Publications

Publications by staff at the Centre

1992

Nordic Medical Research Councils' HIV Therapy Group. Double-blind dose-response study of zidovudine in AIDS and advanced HIV infection. BMJ 1992;304:13-7

Gøtzsche PC. Biasproblemer i kort- og langtidsdobbeltblindforsøg og forslag til forbedringer. Månedsskr Prakt Lægegern 1992;70:159-64.

Gøtzsche PC. P-piller giver ikke brystkræft [comment]. Ugeskr Læger 1992;154:1437.

Gøtzsche PC. Kommentar [comment]. Ugeskr Læger 1992;154:2452.

Gøtzsche PC. Problemer og muligheder ved lægemiddelundersøgelser ved reumatoid artrit. In: Jarner D, Friis J, eds. Dansk Reumatologisk Selskab: postgraduat kursus om arthritis rheumatoides. København: Astra, 1992:18-30.

Gøtzsche PC, Pødenphant J, Olesen M, Halberg P. Meta-analysis of second-line antirheumatic drugs: sample size bias and uncertain benefit. J Clin Epidemiol 1992;45:587-94.

Nielsen C, Gøtzsche PC, Nielsen CM, Gerstoft J, Vestergaard BF. Development of resistance to zidovudine in HIV strains isolated from CD4+ lymphocytes and plasma during therapy. Antiviral Res 1992;18:303-16.

Gøtzsche PC. Placeboeffekt? [comment]. Ugeskr Læger 1992;154:3006.

Gøtzsche PC, Nielsen C, Gerstoft J, Nielsen CM, Vestergaard BF. Trend towards decreased survival in patients infected with HIV resistant to zidovudine. Scand J Infect Dis 1992;24:563-5.

1993

Gøtzsche PC. Metaanalyser: metodologiske og forskningsetiske overvejelser. Bibliotek for Læger 1993;185:17-29.

Gøtzsche PC, Pødenphant J, Olesen M, Halberg P. Critique of meta-analysis of second-line antirheumatic drugs [comment to the editors]. J Clin Epidemiol 1993;46:319-21.

Nordic Medical Research Councils' HIV Therapy Group. Dobbeltblind dosis-respons-undersøgelse af zidovudin ved AIDS og fremskreden HIV-infektion. Ugeskr Læger 1993; 155:104-7 (duplicate publication).

Rasmussen MH, Andersen T, Breum L, Gøtzsche PC, Hilsted J. Cimetidine suspension as adjuvant to energy restricted diet in treating obesity. BMJ 1993;306:1093-6.

Rasmussen MH, Andersen T, Breum L, Gøtzsche PC, Hilsted J. Cimetidine and weight loss [comment]. BMJ 1993;307:446-7.

Gøtzsche PC. Zidovudine in HIV infection [editorial]. Ann Med 1993;25:213-4.

Gøtzsche PC. Trials of homeopathy [comment]. Lancet 1993;341:1533.

Rasmussen MH, Andersen T, Breum L, Hilsted J, Gøtzsche PC. Observer variation in measurements of waist-hip ratio and the abdominal sagittal diameter. Int J Obes 1993;17:323-7.

Gøtzsche PC. Zidovudine dosage [letter]. BMJ 1993;307:682-3.

Gøtzsche PC. Meta-analysis of NSAIDs: contribution of drugs, doses, trial designs, and meta-analytic techniques. Scand J Rheumatol 1993;22:255-60.

1994

Gøtzsche PC. Randomiseret undersøgelse af oxytocin? [comment]. Ugeskr Læger 1994;156:201.

Gøtzsche PC, Nielsen C, Gerstoft J, Nielsen CM, Vestergaard BF. Patientoverlevelse ved zidovudinresistent HIV. Ugeskr Læger 1994;156:185-6 (duplicate publication).

The Cochrane Collaboration Handbook. Sackett D, Chalmers I, Silagy C, Gøtzsche PC, Dickersin K, Oxman A, eds. 1994.

Gøtzsche PC. Meta-analyser og kvalitetssikring. Journal 1994;2:16-7.

Gøtzsche PC. Det Nordiske Cochrane Center: samarbejde om systematiske oversigter over behandlingers effekter. Nord Med 1994;109:244-5.

Gøtzsche PC. Is there logic in the placebo? Lancet 1994;344:925-6.

Rigshospitalets Forskningspolitik. Vinderup Bogtrykkeri, 1994.

Gøtzsche PC. Supplement til Rigshospitalets Forskningspolitik. Vinderup Bogtrykkeri, 1994.

Gøtzsche PC. Steroids and peptic ulcer: an end to the controversy? [editorial]. J Intern Med 1994;236:599-601.

The Standards of Reporting Trials Group. A proposal for structured reporting of randomized controlled trials. JAMA 1994;272:1926-31.

In Press

Gøtzsche PC, Liberati A, Torri V, Rossetti L. Beware of surrogate outcome measures. Int J Techn Ass Health Care

Gøtzsche PC. Det videnskabelige grundlag ved prioritering. In: Andreasen PB, Pedersen KM, eds. Prioriteringer i sundhedsvæsenet - en grundbog. København, FADL's Forlag

Gøtzsche PC. Clinical practice should reflect clinical science (book chapter, EU programme: Advanced Informatics in Medicine).

Gøtzsche PC, Gjørup I, Bonnén H, Brahe NEB, Becker U, Burcharth F. Somatostatin vs placebo in bleeding oesophageal varices. A randomized trial and a meta-analysis. BMJ

Publications describing the Cochrane Collaboration (some of them were mentioned above)

Gøtzsche PC. Metaanalyser: metodologiske og forskningsetiske overvejelser. Bibliotek for Læger 1993;185:17-29.

Levi R. Banbrytande samarbete pågår. Medicinsk Vetenskap & Praxis, Information från SBU 1993;4:8.

Bjørndal A. Hvilke av de helsetjenester vi tilbyr, er effektive? Tidsskrift for Den Norske lægeforening 1993;113:3669-70

Krag E. Metaanalyser: Nye krav til klinikeren. Ugeskrift for Læger 1994;156:14-5.

Werkö L. Kliniska studier i nya databaser: Norden in i Cochrane-nätverket. Läkartidningen 1994;91:837-8.

Mäkelä M. Tiedonjyvistä tiedostoiksi Meta-analyysien käyttö lääketieteessä (Use of meta-analysis in medicine). Suomen Lääkärilehti 1994;49:355.

Mäkelä M. Tiedonjyvistä tiedostoiksi 2: Cochrane-yhteistyö laajenee (Cochrane Collaboration expanding). Suomen Lääkärilehti 1994;49:731.

Mäkelä M. Tiedonjyvistä tiedostoiksi 3: Katsauksia talkootyönä (Reviews by volunteer groups). Suomen Lääkärilehti 1994;49:2013.

Anonymous. Nye muligheder for at anvende de bedste behandlinger hurtigt. Riget 1994; marts:12.

Gøtzsche PC. Meta-analyser og kvalitetssikring. Journal 1994;2:16-7.

Atterstam I. Osäkra vårdmetoder synas. Svenska Dagbladet 1994; 31 maj.

Meyer G. Vi behandler i blinde. Sygeplejersken 1994;94:12-4.

Gøtzsche PC. Det Nordiske Cochrane Center: samarbejde om systematiske oversigter over behandlingers effekter. Nord Med 1994;109:244-5.

Rigshospitalets Forskningspolitik. Vinderup Bogtrykkeri, 1994.

Gøtzsche PC. Supplement til Rigshospitalets Forskningspolitik. Vinderup Bogtrykkeri, 1994.

The Standards of Reporting Trials Group. A proposal for structured reporting of randomized controlled trials. JAMA 1994;272:1926-31.

Gøtzsche PC. Det videnskabelige grundlag ved prioritering. In: Andreasen PB, Pedersen KM, eds. Prioriteringer i sundhedsvæsenet - en grundbog. København, FADL's Forlag

Gøtzsche PC. Clinical practice should reflect clinical science (book chapter, EU programme: Advanced Informatics in Medicine).

APPENDIX 2. Meetings and courses addressed by staff at the Centre

1992

Nordic AIDS Steering Committee Meeting, Copenhagen, 16 Jan
Nordic AIDS Investigators' Meeting, Copenhagen, 5 Feb
Seminar on RCTs, Rigshospitalet, Copenhagen, 28 Feb
Danish AIDS meeting, Rigshospitalet, Copenhagen, 29 Feb
Course in clinical research, Hillerød, 2-6 March
Course in clinical pharmacology, Menstrup, 3 March
Course on research methods, University of Copenhagen, 12 March
Course on research methods, Hvidovre, 2 April
Meeting of the VALIDATA NETWORK, Lyon, 22 April
Course in clinical pharmacology, Århus, 5 May
Course in research ethics, Odense, 8 May
Nordic AIDS Steering Committee Meeting, Copenhagen, 22 May
24th Scandinavian Congress of Rheumatology, Malmö, 1 June
13th International Meeting of International Society for
Clinical Biostatistics, Copenhagen, 18 Aug
Evaluation of Latvian medical research, Riga, 7-12 Sept
Course in clinical pharmacology, Århus, 6 Oct
Course in clinical research, Hillerød, 19-23 Oct
Nordic AIDS Steering Committee Meeting, Copenhagen, 29 Oct
Medical Society for Fyn, Odense, 2 Nov
Cochrane workshop on building a register of RCTs, Oxford, 8 Nov
UK Cochrane Centre opening, Oxford, 9 Nov
Course in rheumatology, Herlev, 24 Nov
Course in Clinical Pharmacology, Menstrup, 8 Dec
International meeting on AIDS trials, Rome, 8 Dec

1993

Cochrane workshop on identification of RCTs, Oxford, 13 Jan
Course in rheumatology, Herlev, 9 Feb
Course in Clinical Pharmacology, Menstrup, 2 March
Symposium in rheumatology, Nyborg, 12 March
Course in research ethics, Odense, 26 March
Course in clinical research, Hillerød, 31 March
Course in clinical pharmacology, Menstrup, 4 May
Course on research methods, University of Copenhagen, 13 May
Cochrane Collaboration meeting in Primary Care, Oxford, 5 July
Cochrane and BMJ meeting on systematic reviews, London, 7 July
Cochrane exploratory meeting for rheumatology, Barcelona, 8 July
Nordic AIDS Steering Committee Meeting, Copenhagen, 16 Aug
2nd International Congress on Peer Review, Chicago, 9-11 Sept
Cochrane workshop on review groups, Oxford, 14 Sept
Course in clinical pharmacology, Menstrup, 5 Oct
Cochrane workshop on assessing the quality of RCTs, Ottawa, 7-8 Oct
Cochrane exploratory meeting for gastroenterology, Copenhagen, 13 Oct
Danish Society for Philosophy, Ethics, and Methods in Medicine, Copenhagen, 13 Oct
Nordic Cochrane Centre opening, Copenhagen, 13 Oct
Advisory Board Meeting of the Nordic Cochrane Centre, Copenhagen, 13 Oct
1st Annual Cochrane Collaboration Colloquium, Oxford, 15-16 Oct
Cochrane workshop on how to use a systematic review, Stockholm, 18 Oct
Cochrane workshop for reviewers, Stockholm, 19-20 Oct

Workshop on research policy, Gentofte, 22 Nov
Course in clinical pharmacology, Menstrup, 7 Dec
Annual Meeting, Norwegian Research Ethics Committees, Oslo, 14 Dec

1994

Seminar on Bibliometry, Danish Ministry of Research, Jan 5
Danish Society for Gastroenterology, Copenhagen, Jan 11
Course on research methods, University of Copenhagen, 2-3 Feb
Cochrane Collaboration Steering Group Meeting, Hamilton, 11 Feb
Canadian Cochrane Centre Meeting, Ottawa, 11-12 Feb
Course in Clinical Pharmacology, Menstrup, 1 March
Meeting at Danish Hospital Institute, Copenhagen, 15 March
Nordic AIDS Steering Committee Meeting, Copenhagen, 23 March
Conference on collaboration between the University Hospitals in Copenhagen and Southern Sweden, Rungsted, 24-25 March
PhD course on systematic reviews, Copenhagen, 11-12 April
PhD course on systematic reviews, Copenhagen, 13-14 April
Meeting at Danish National Board of Health, Copenhagen, 19 April
Course on research methods, Hillerød, 20 March
European Union, AIMCOM meeting, Bruxelles, 24 April
Nordic Conference on critical choices in the health care sector, Copenhagen, 26-27 April
European Union, Homeopathic medicine research, Bruxelles, 6 May
15th Annual Meeting, Society for Clinical Trials, Houston, 9 May
Cochrane exploratory meeting for tuberculosis, Stockholm, 25 May
2nd Advisory Board Meeting, Nordic Cochrane Centre, Stockholm, 25 May
Cochrane workshop for hand searchers, Stockholm, 26 May
25th Scandinavian Congress of Rheumatology, Oslo, 2 June
Cochrane Collaboration Steering Group Meeting, Hamilton, Canada, 30 Sept
Workshop coordinator, 2nd Cochrane Colloquium, Hamilton, Canada, 1 Oct
Musculoskeletal Review Group Meeting, Hamilton, Canada, 2 Oct
Cochrane Collaboration Steering Group Meeting, Hamilton, Canada, 5 Oct
Steering Committee Meeting, ALTER study, Copenhagen, 26 Oct
Meeting with STAKES, Helsinki, 31 Oct
Seminar on National Research Strategy, Copenhagen, 9 Nov

1995

EU Application Meeting, Danish Hospital Institute, 12 Jan
Course in biological psychiatric research, Copenhagen, 17 Jan
BIOMED meeting, Oxford, 20 Jan
Danish Society for Good Clinical Practice, Copenhagen, 2 Feb
University Hospitals Centre for Nursing Research, Copenhagen, 23 Feb
Meeting with Danish Minister of Health, Copenhagen, 27 Feb
3rd Advisory Board Meeting, Nordic Cochrane Centre, Helsinki, 27 March
Workshop on Systematic Reviews, Copenhagen, 27-29 March
Cochrane Centre Directors' meeting, Copenhagen, 30 March

APPENDIX 3. Visitors received at the Centre (apology for any omissions)

Australia
Chris Silagy, Australasian Cochrane Centre

Canada
Brian Haynes, Canadian Cochrane Centre, McMaster University
John McDonald, University Hospital, London, Ontario
Arne Ohlsson, University of Toronto
Andy Oxman, McMaster University

Denmark
Lars Ole Andersen, Museum of Medical History
Per Bech, Hillerød Hospital
Christian Gluud, Institute of Disease Prevention
Niels Keiding, University of Copenhagen
Finn Børlum Kristensen, Danish Hospital Institute
Ole Olsen, University of Copenhagen
Thorkild IA Sørensen, Institute of Disease Prevention
Henrik R Wulff, University of Copenhagen

Holland
Jos Kleijnen, Dutch Cochrane Centre

Iceland
Jóhann Sigurðsson, Professor

Italy
Alessandro Liberati, Italian Cochrane Centre

Norway
Arild Bjørndal, National Institute of Public Health

Sweden
Harry Boström, Professor emeritus
Arne Jacobsson, Swedish Institute for Health Services Development
Egon Jonsson, Swedish Council on Technology Asssessment in Health Care
Ulf Malm, Sahlgrenska Hospital, Göteborg
Deborah Marshall, Swedish Council on Technology Asssessment in Health Care
Martin Olsson, Huddinge Hospital
Lars Werkö, Swedish Council on Technology Assessment in Health Care

UK
Iain Chalmers, UK Cochrane Centre
David Thompson, University of Manchester

USA
Thomas C Chalmers, Harvard University