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# Promoting Evidence-based Health Care: the role of the Cochrane Collaboration?

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# Outline

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- What is evidence-based health care?
- What is the Cochrane Collaboration and what does it do?
- How does the Collaboration get its message over to information users?



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# What is evidence-based health care?



“the conscientious, explicit and judicious use of the current best evidence in making (health care) decisions.”

Sackett DL, et al. 1997

“The notion that right-minded people will naturally make decisions on the basis of the best available scientific evidence is a misleading and dangerous idea.”

Erve Chambers, 1985





# “Know-do gap”



Evidence



Practice





# EBHC: The case for systematic reviews



- Information overload is a barrier to research utilization
- Poor quality of reviews of the medical literature
- Problem characterized as a “double-standard” with potentially dire consequences for patients and other consumers of health care
  - “advice on some life-saving therapies has been delayed for more than a decade, while other treatments have been recommended long after controlled research has shown them to be harmful.”

Antman et al. JAMA 1992; 268: 240-8



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# A systematic review defined as....



“A review in which bias has been reduced by the systematic identification, appraisal, synthesis, and, if relevant statistical aggregation of all relevant studies on a specific topic. according to a predetermined and explicit method”

Moher et.al. Lancet 1999





# Steps involved in conducting a systematic review



1. State the objectives of the review
2. Define eligibility criteria for studies to be included
3. Identify (all) potentially eligible studies
4. Apply eligibility criteria
5. Assess study quality
6. Assemble the most complete dataset feasible
7. Analyse this dataset, using statistical synthesis and sensitivity analyses, if appropriate and possible
8. Prepare a structured report of the research





# Benefits of systematic reviews

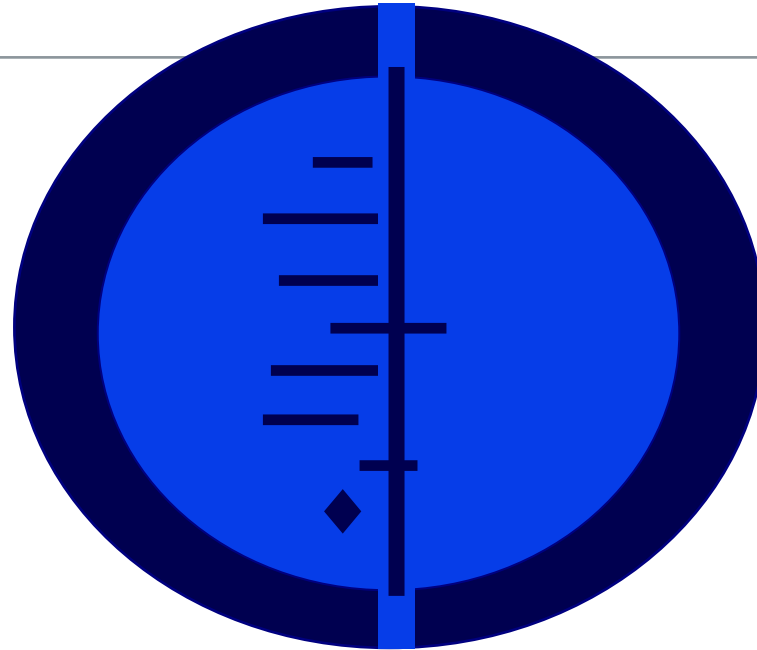
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- Reduce large quantities of information to useful form
- Provide reliable information
- Increased power and precision
- Investigate conflicting findings
- Establish generalizability of findings
- Shorten time from discovery to implementation







The Cochrane Collaboration is an international organisation that aims to help people make well-informed decisions about healthcare by preparing, maintaining and promoting the accessibility of systematic reviews of the effects of healthcare interventions



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# Cochrane Collaboration

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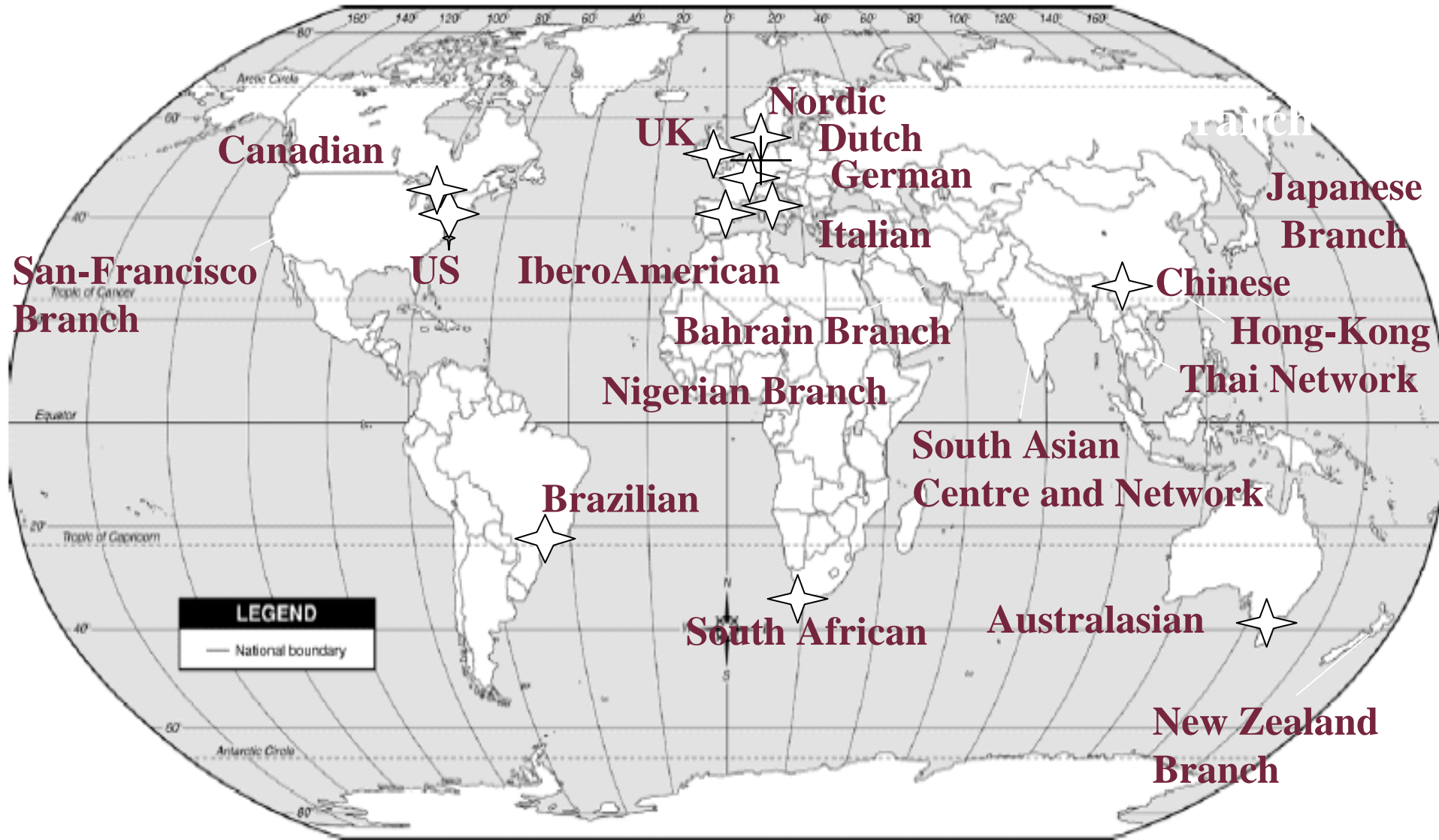
- Established in 1993 now has:
- 15,000 contributors
- from more than 100 countries
- over 1,000 individuals from developing countries
- 13 Centres with associated networks
- 51 Cochrane Review Groups



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# Cochrane Centres and Branches

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**COCHRANE CENTRE**  
THE COCHRANE COLLABORATION





# SACC: Main focus areas

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- Reviews relating to the MDGs
  - HIV, TB, malaria
  - MCH
  - Nutrition
  - Health systems
- Promoting EBHC
- Developing the science of research synthesis



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## SACC key collaborators

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- Liverpool School of Tropical Medicine
- UK Cochrane Centre
- Norwegian Knowledge Centre for the Health Services
- Institute of Global Health at the University of San Francisco
- University of Calabar
- University of Nairobi



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# African Cochrane contributors meeting 2007





# Current developments

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- SU Food Security initiative
- Collaboration with Nutrition Information Centre of University of Stellenbosch (NICUS)
- Centre for Evidence-based Nutrition



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# The Cochrane Library

Evidence for healthcare decision-making

## BROWSE

Cochrane Reviews: [By Topic](#) | [New Reviews](#) | [Updated Reviews](#) | [A-Z](#) | [By Review Group](#)  
Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#)

[? More Info](#)

## SEARCH

[Advanced Search](#) | [MeSH Search](#) | [Search History](#) | [Saved Searches](#)

[Review]  
**Antioxidant supplements for prevention of mortality in healthy participants and patients with various diseases**

[Review]  
**Antioxidant supplements for prevention of mortality in healthy participants and patients with various diseases**

G Bjelakovic, D Nikolova, LL Gluud, RG Simonetti, C Gluud

*Cochrane Database of Systematic Reviews* 2008 Issue 3 (Status: *Unchanged*)  
Copyright © 2008 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.  
DOI: 10.1002/14651858.CD007176 This version first published online: 23 April 2008 in Issue 2, 2008

This record should be cited as: Bjelakovic G, Nikolova D, Gluud LL, Simonetti RG, Gluud C. Antioxidant supplements for prevention of mortality in healthy participants and patients with various diseases. *Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD007176. DOI: 10.1002/14651858.CD007176.

[Next >](#)

### Abstract

### Background

Animal and physiological research as well as observational studies suggest that antioxidant supplements may improve survival.

[PDF](#) (Size 1571 K)

- [Abstract](#)
- [Plain language summary](#)
- [Background](#)
- [Objectives](#)
- [Criteria for considering studies for this review](#)
- [Search methods for](#)

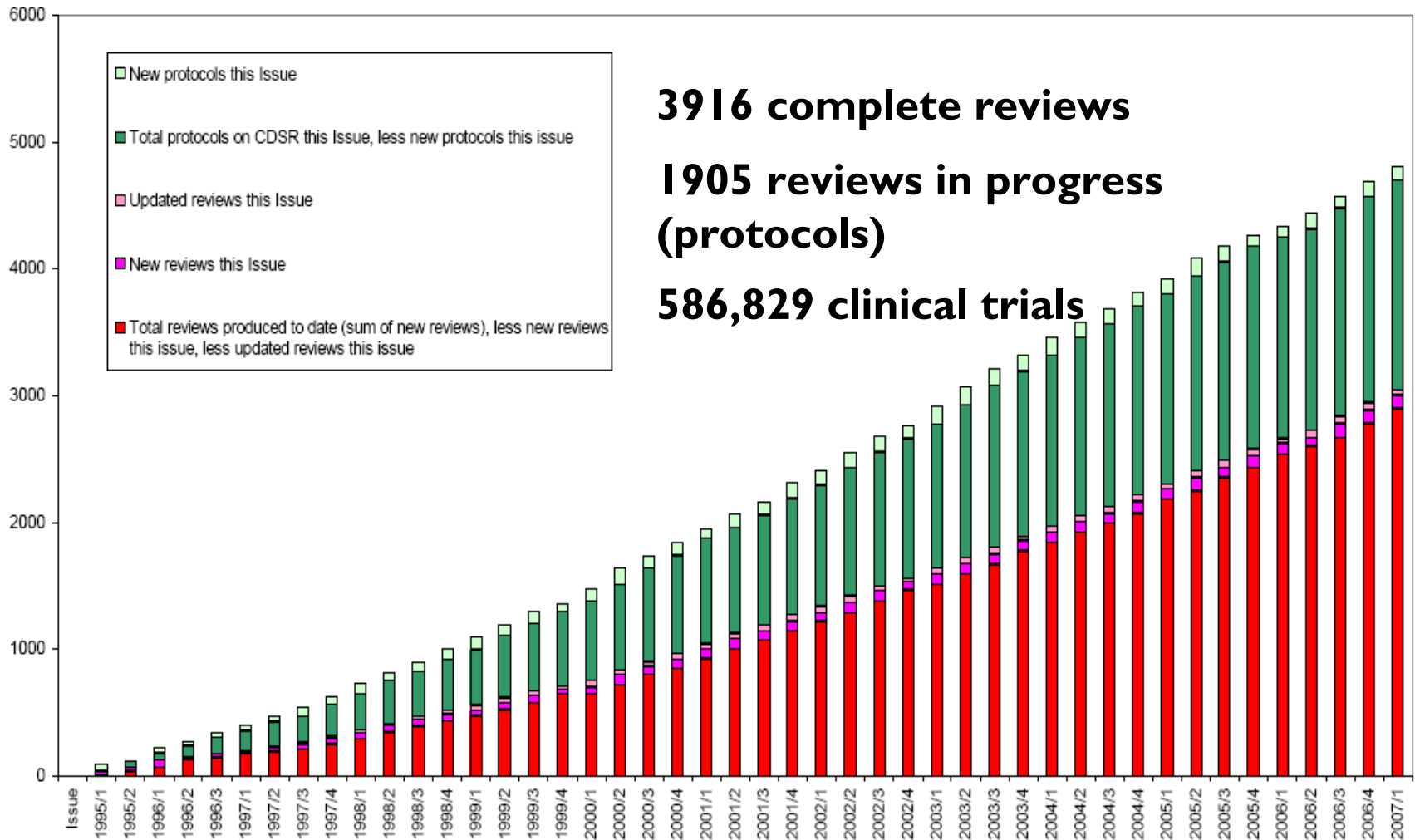
## IMPACT FACTOR OF 5.2 in 2009

# Ranked 12th out of 107 in the ISI category Medicine, General & Internal.



# Cochrane Library Issue 3, 2009

Reviews and protocols for reviews on the  
*Cochrane Database of Systematic Reviews*





# Full text downloads of Cochrane reviews in SA



Activity	Usage
Total 2005 Full Text Download	9937
Total 2006 Full Text Download	12724
Total 2007 Full Text Download	12084

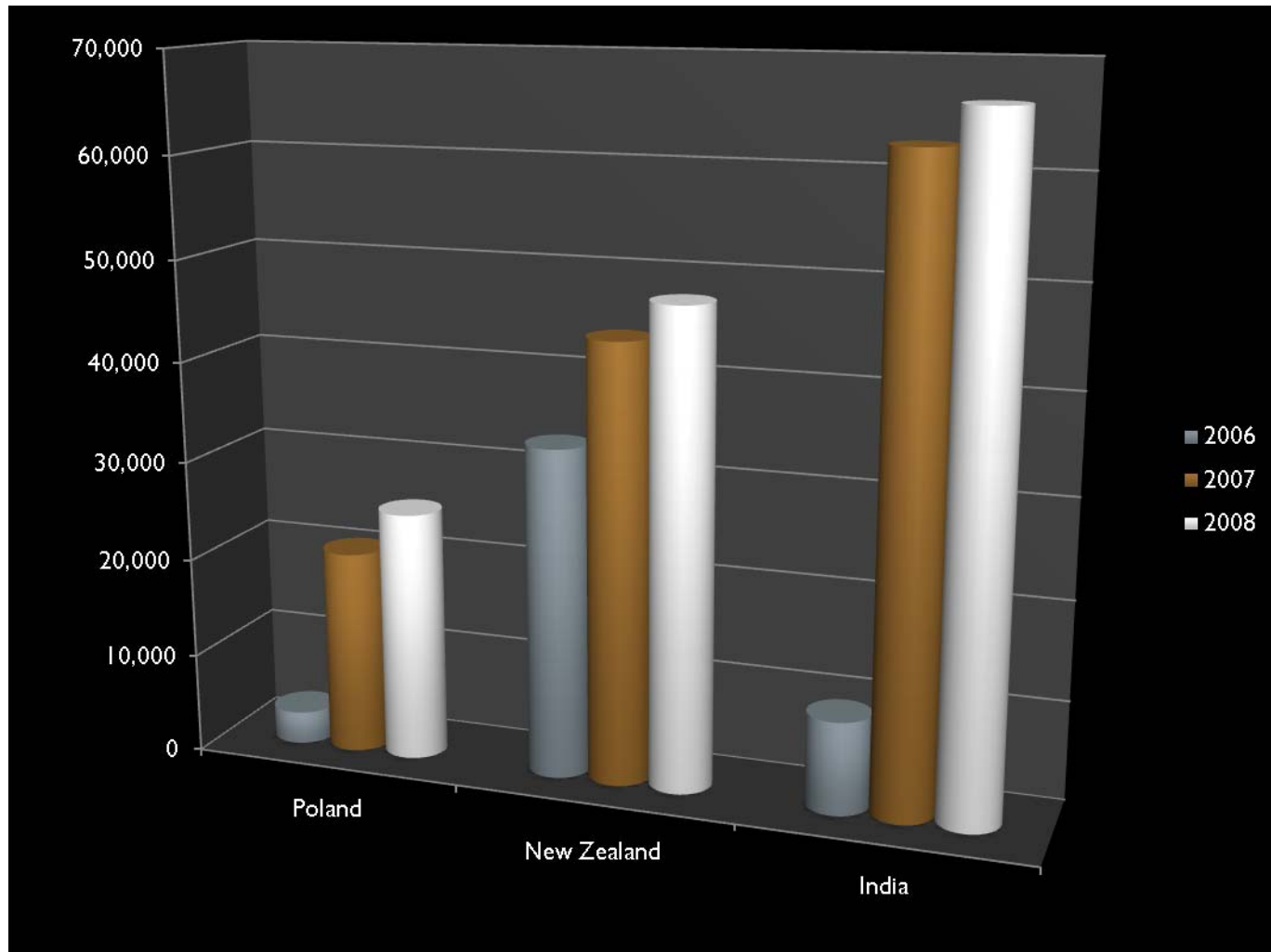




# India obtains national subscription to the Cochrane Library in 2007.



Full text downloads of Cochrane reviews in India reaches 66,303 in 2008





# Towards 'actionable messages'



Studies  
(primary research)

Systematic  
Reviews

Summaries



# How the Cochrane Collaboration Is Responding to the Asian Tsunami

Prathap Tharyan\*, Mike Clarke, Sally Green

PloS Medicine, 2005

- Tsunami 26 December 2004
- “the greatest natural disaster in living memory”
  - killed >280,000 people
  - displaced > 1 million
  - affected the lives of five million more
- *Evidence Aid* launched to ensure that most reliable and relevant information available to enable survivors to receive the best care



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## Brief 'debriefing' for trauma



- Indian National Institute of Mental Health and Neurological Sciences strongly promoted mass single session de-briefing for people in tsunami affected villages
  - to reduce immediate psychological distress
  - to prevent the subsequent development of psychological disorders, in particular PTSD
- Cochrane review identified that concluded, contrary to popular belief, that single session debriefing was unlikely to be helpful and possibly harmful (increase in PTSD)
- Message incorporated into the content of counsellor training workshops





# *Evidence Update*

*Mental Health Series*

*January 2006*

Does brief psychological debriefing help manage psychological distress after trauma and prevent post traumatic stress disorder?

There is no evidence that single session individual psychological debriefing prevents post traumatic stress disorder after traumatic events.







**Researchers ARE**  
**FROM MARS,**  
*Polycymakers Are*  
*from Venus*

A Practical Guide for  
Improving Communication and  
Getting What You Want in Your Relationships



# SUPPORT

## Supporting Policy relevant Reviews and Trials

Home

**SUPPORT** Summaries

About SUPPORT  
Summaries

How SUPPORT Summaries  
are prepared

Judgements about the  
quality of evidence

Conflicts of interest

Glossary of terms

**Tools**

For Policy makers

For Researchers

**Courses and Workshops**

Policy makers

Researchers

**About SUPPORT**

Objectives

Partners

Related Publications

Links

**Contact us**

**News Items**

FOR HEALTH POLICY MAKERS

### SUPPORT Summaries

Concise summaries of the best available evidence of the effects of

- health systems interventions and
- maternal and child health interventions

for low and middle-income countries.

New SUPPORT Summaries include

- [Audit and feedback](#)
- [Conditional cash transfers](#)
- [Contracting out](#)
- [Educational outreach](#)
- [Integration of health services](#)
- [Lay health workers](#)
- [Private for-profit health sector](#)
- [Specialist outreach](#)
- [Task shifting from doctors to nurses](#)

See all 20 new health systems [summaries](#)

FOR RESEARCHERS

### Tools and training

Free resources for conducting trials in low and middle-income countries.

#### Trial Protocol Tool

[Open-access](#) tools that provide training and mentoring in designing, conducting and analysing trials.

#### In development

[Trial Management Tool](#), [Funding Review](#)

#### Other tools

[Precis](#) (pdf 1022 kb) Assess pragmatism of a controlled clinical trial. Developed by Dave Sackett.

#### Latest news

[Improving the reporting of pragmatic trials](#)

[Task-shifting and the Alma-Ata vision](#)

[Other news](#)

SUPPORT will develop a range of tools and workshops to improve the production and use of policy-relevant research in low and middle-income countries. The project builds on two existing networks with experience in research and linkage to policy-making, one in Latin America and one in sub-Saharan Africa.



# SUPPORT summaries

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Support Summary

## Do nurse practitioners working in primary care provide equivalent care to doctors?

### Key messages for lower and middle income countries (LMIC):

- Nurse practitioners have existed in North America for many years, and an increasing number of such nurses are being employed in the United Kingdom in general practice, emergency departments, and other primary care settings.
- This systematic review found that patients are more satisfied with care from a nurse practitioner than from a doctor, with no difference in health outcomes. In addition, nurse practitioners provide longer consultations and carry out more investigations than doctors.
- All the studies included in the review were conducted in high-income countries and they did not provide good quality evidence of the economic impact of substituting nurse practitioners for doctors.

This SUPPORT Summary is based on the following systematic review:  
<https://doi.org/10.1136/bmj-2020-030909>  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7500000/>

Summary prepared by: Miralay Chopra & Charles Gray/MySage, September 2021.

SUPPORT – an international collaboration funded by the EU Horizon Programme to support policy makers, reviews and trials to inform decisions about the most and best health care for middle-income countries. Additional information, including explanations of terms used in these summaries, can be found on the SUPPORT website: [www.supportcollaboration.org](http://www.supportcollaboration.org)

## Background

Nearly all LMIC face a chronic shortage of health workers in the public health sector. This is especially the case in rural areas and for medical doctors. Growing financial pressure to improve the efficiency of health systems is also leading to an increased interest in broadening the scope of practice of nurses. One aspect of this is using nurse practitioners providing first-line care in primary care settings and to secondary departments. This is an example of substituting doctors with other health workers.

Nurse practitioners have been increasingly used in the United States where they have been working in a variety of settings, though usually in primary care, for many decades. Nurse practitioners are nurses who have had specific further training, often at graduate level, to work autonomously, making and prescribing diagnoses and treatments. It is important to consider whether the evidence supports the notion that nurse practitioners can substitute for doctors by providing safe, effective, and acceptable first-line management of patients.

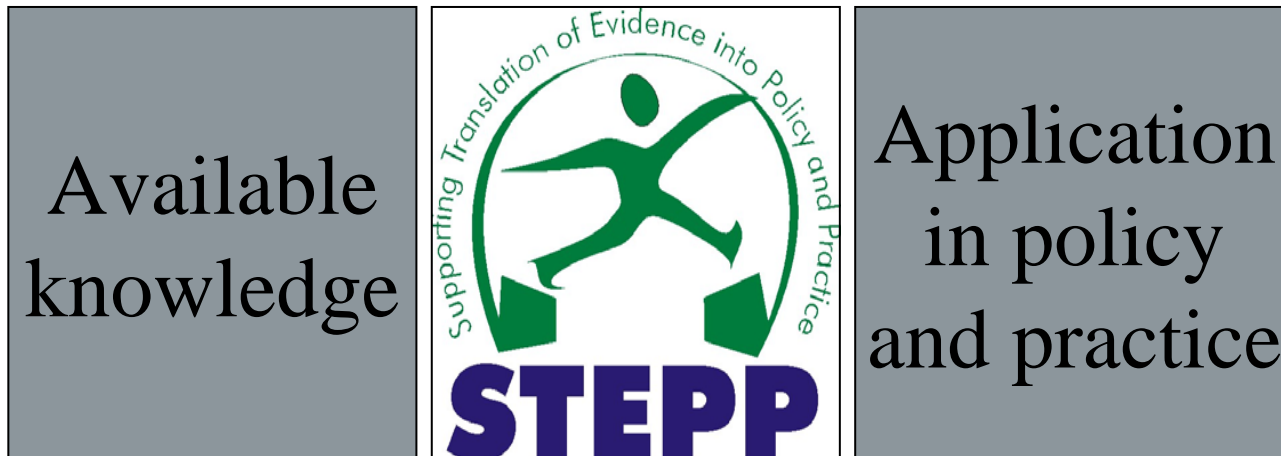
The review focused upon evaluation of the effect of substituting doctors for other health workers or outcomes of care provided by nurse practitioners compared with doctors, working in primary care as a first point of contact for any patient with undifferentiated health problems.

## Summary of findings

This review found that patients were modestly more satisfied with care by a nurse practitioner (standardised mean difference 0.27, 95% confidence interval 0.07 to 0.47) than by a doctor. Nurse practitioners had longer consultations (weighted mean difference 3.67 minutes, 95%CI 3.05 to 4.29) and made more investigations (odds ratio 1.22, 1.02 to 1.46) than did doctors. No differences were found in prescriptions, nurse consultations, or referrals. Quality of care was in some ways better for nurse practitioner consultations. In summary, increasing the availability of nurse practitioners in primary care is likely to lead to high levels of patient satisfaction and high quality care.



Joint effort of SACC and PGWC



# HIV/AIDS, TB AND NUTRITION



Scientific inquiry into the nutritional influences  
on human immunity with special reference  
to HIV infection and active TB in South Africa



*Knowing & Helping*

- 300 page, peer reviewed report
- 3 main sections
  - Physiology and pathophysiology of nutrition, immunity and infection
  - Clinical evidence of effects
  - Conclusions and recommendations
- Released August 2007 in full and condensed versions; press/media launch; govt.departments; dissemination of 3000 copies





# Male circumcision for prevention of heterosexual acquisition of HIV in men – a Cochrane review

Siegfried N<sup>1</sup>, Muller M<sup>2</sup>, Volmink J<sup>3</sup>, Deeks J<sup>4</sup>, Egger M<sup>5</sup>, Low N<sup>6</sup>, Weiss H<sup>7</sup>, Walker S<sup>8</sup>, Williamson P<sup>9</sup>

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Tygerberg 7505, South Africa. Telephone: + 27 (0) 21 938 0804;

e-mail: nandi.siegfried@mrc.ac.za; <http://www.mrc.ac.za/cochrane>

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<sup>4</sup>Centre for Statistics in Medicine, Institute of Health Sciences, Oxford, United Kingdom

<sup>5</sup>Department of Social and Preventive Medicine, University of Bern, Bern, Switzerland

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<sup>7</sup>London School of Hygiene and Tropical Medicine, London, United Kingdom

<sup>8</sup>Clinical Trials Unit, Medical Research Council, London, United Kingdom

<sup>9</sup>Centre for Medical Statistics and Health Evaluation, University of Liverpool, Liverpool, United Kingdom

## Background

Male circumcision is defined as surgical removal of all or part of the foreskin of the penis, practiced as part of a religious ritual usually conducted shortly after birth or in childhood; as a medical procedure related to infections, injury or anomalies of the foreskin; or as part of a traditional ritual as an initiation into manhood.<sup>1</sup> For over a decade observational studies have suggested an association between male circumcision and HIV infection in males, most suggesting a protective effect of male circumcision on HIV acquisition in men.

Six reviews<sup>2-7</sup> and one meta-analysis<sup>8</sup> of these observational studies have been published, reaching different conclusions on the association between male circumcision and HIV infection. In this Cochrane review [see Box 1] we assess the likelihood that use of circumcision as an intervention will reduce transmission of HIV infection to men. This review thus differs in aim from previous reviews, which concentrated on assessing evidence of the association between circumcision and HIV.

Circumcision itself may be a proxy measure of the knowledge and behaviour learnt during initiation, when young men are taught about traditional sexual practices, including monogamy and penile hygiene. Circumcision practices are largely culturally determined, so there are strong beliefs and opinions surrounding them. It is important to acknowledge that researchers' personal biases and dominant circumcision practices of their respective countries may influence interpretation of findings. In addition, viral load is increasingly considered to be crucial in HIV transmission,<sup>9</sup> and may be both an important confounder and an effect modifier.

## Objective

To assess the evidence of an interventional effect of male circumcision for preventing acquisition of HIV-1 and HIV-2 by men through heterosexual intercourse.

## Methods

### Search strategy

We searched online for published and unpublished studies in *The Cochrane Library* (issue 2, 2002), MEDLINE (April 2002), EMBASE (February 2002) and AIDSLINE (August 2001). We also searched databases listing conference abstracts, scanned reference lists of articles, and contacted authors of included studies and researchers working in the field to source unpublished studies. The search was not limited by language.

### Selection criteria

We searched for randomised and quasi-randomised controlled trials of male circumcision or, in their absence, observational studies that compared rates of HIV-1 and HIV-2 infection in circumcised and uncircumcised heterosexual men.

### Data collection and analysis

Independent reviewers selected studies, assessed study quality and extracted data. We stratified studies based on study design and whether they included participants from the general population or high-risk groups (such as patients treated for sexually transmitted infections). We expressed findings as crude and adjusted odds ratios (OR) together with their 95% confidence intervals (CI) and conducted a sensitivity analysis to explore the effect of adjustment on study results.

## What is a Cochrane review?

A Cochrane systematic review differs from a traditional narrative review in that it is systematic, attempts to reduce bias by extensive searches, is explicit in its methods, is current and is regularly updated, and uses meta-analysis when appropriate. Each review undergoes two stages of peer review and completed reviews are published by the Cochrane Collaboration in an electronic database, The Cochrane Library, produced quarterly.





# Male circumcision for prevention of heterosexual acquisition of HIV in men

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- Intense interest in results of review – covered in:
- Print media – 90 articles in 20 countries
- SA radio – 6 stations
- TV - SABC 2 and SABC 2 international







## **1. Disseminate tailored research syntheses (“push”)**

- increase awareness of research synthesis among policy makers, providers and researchers; tailor materials to specific audiences and needs.

## **2. Increase dialogue (“exchange”)**

- seek dialogue with policy makers e.g. WHO, governments, etc. around the use of reviews

## **3. Increase demand for evidence (“pull”)**

- create and increase demand for evidence from different target groups and ensure evidence-informed thinking and decision making is embedded in national and regional health structures