“Meeting the research information needs of patients and clinicians more effectively”

Iain Chalmers
Editor, James Lind Library
www.jameslindlibrary.org

1st Annual Lecture
The problem

People are suffering and dying unnecessarily because of insufficient clinician and patient access to reliable, up-to-date information about completed and ongoing research.
Why have I been obsessed for forty years with the need to meet the research information needs of patients and clinicians more effectively?
My experience as a clinician
60 years ago
Fund raising advert for the United Nations Association
Teach thy tongue to say I do not know and thou shalt progress.
I could have served my Palestinian patients and their community better if I had had:

more humility

access to systematic reviews of relevant clinical trials.
UNRWA Clinic, Khan Younis Camp, Gaza Strip, 1969/70.
Severe malnutrition following measles
A systematic review of clinical trials reported between 1939 and 1967 shows that:

antibiotics prescribed for children with measles can reduce their risk of developing pneumonia
Which antibiotic should I use in the 21st century, and at which dose, frequency and duration?

Paul Glasziou et al. What is missing from treatment descriptions in trials and reviews? BMJ In press.
Prophylactic antibiotics to prevent pneumonia and other complications after measles: community based randomised double blind placebo controlled trial in Guinea-Bissau

Interventions Sulfamethoxazole-trimethoprim (co-trimoxazole) or placebo for seven days.

Conclusions The group that received prophylactic antibiotics had less pneumonia and conjunctivitis and had significantly higher weight gains in the month after inclusion. The results indicate that prophylactic antibiotics may have an important role in the management of measles infection in low income countries.

Trial registration Clinical trials NCT001168532.
Are there any relevant ongoing controlled trials addressing these uncertainties?
measles AND antibiotics

Results of the search for measles AND antibiotics in the Title, Main ID, Countries, Interventions and Condition fields.

No results found!
My experience as a patient
systematic reviews of carefully controlled research will be required to produce the kind of evidence that I am likely to believe, and that I would wish those offering me care to take into account.
Retained/impacted ear wax
a problem causing impaired hearing and localised eczema,
sometimes associated with serious complications,
which costs the NHS £50 million a year

INVITED ARTICLE

Better information systems are needed to help patients and clinicians integrate clinical research within everyday clinical practice

Iain Chalmers, Oxford, UK
RESOURCES

Evidence Based Reviews
Bandolier, Cochrane Library, DARE, HTA Database, NHS EED

Guidance
CKS (incorporating Prodigy), National Library of Guidelines, NICE Guidance, Protocols and Care Pathways and selected International Guidelines

Specialist Libraries
Collections of the best available evidence for different communities of practice

Books, Journals and Healthcare Databases
AMED, British Nursing Index, CINAHL, E-books, EMBASE, HMIC, MEDLINE, My Journals, PsycINFO, PubMed, Databases from Dialog
“...ear drops (of any sort) can help to remove ear wax...
“...water and saline drops appear to be as good as more costly commercial products...
“...The quality of the trials was generally low and more research is needed.”
What do I want from health research and researchers when I am a patient?

Iain Chalmers

BRITISH MEDICAL JOURNAL, 20th May 1995, Vol. 310, Pages 1315-1318

Systematic reviews of carefully controlled research will be required to produce the kind of evidence that I am likely to believe, and that I would wish those offering me care to take into account.

When the relative merits of alternative forms of care are uncertain, I want to be offered the opportunity to participate in properly controlled research.
Welcome to the WHO International Clinical Trials Registry Platform

The mission of the WHO Registry Platform is to ensure that a complete view of research is accessible to all those involved in health care decision making. This will improve research transparency and will ultimately strengthen the validity and value of the scientific evidence base.

The registration of all interventional trials is a scientific, ethical and moral responsibility.

An evaluation of the self-use of bulb syringes for the self-treatment of ear wax and their impact on primary care workload - a randomised controlled trial

| ISRCTN | ISRCTN71172551 |
My Full name is

IAIN GEOFFREY CHALMERS

If there is no reasonable prospect of recovery I do NOT wish to be resuscitated or my life to be artificially prolonged. My Advance Directive is lodged with

DR. ANDY CHIVERS
01865-558861

1. Medical Information eg. blood group

INVITE ME TO PARTICIPATE IN ALL RANDOMIZED CONTROLLED TRIALS FOR WHICH I AM POTENTIALLY ELIGIBLE.

2. After my death my organs may be used for medical purposes

YES

3. Next of Kin

JAN CHALMERS
01865-554949

Signature

Date

DAVID CHALMERS 7/12/98
In summary

As a clinician and as a patient, I want readier access to:

- up-to-date, valid, systematic reviews
- with details sufficient to inform my decision making; and
- information about relevant unpublished and ongoing trials
Improving reports of research
What guidance is available for reporting research studies?

In addition to the Uniform Requirements, a number of reporting guidelines were developed by groups of experts to facilitate reporting of research studies. Medical journals, including BMJ, JAMA, Lancet, and NEJM often require compliance to all or some of the following reporting guidelines:

- **CONSORT Statement** (reporting of randomised controlled trials)
- **STARD** (reporting of diagnostic accuracy studies)
- **STROBE** (reporting of observational studies in epidemiology)
- **QUOROM**, recently renamed PRISMA (reporting of systematic reviews)
- **MOOSE** (reporting of meta-analyses of observational studies)
Marc Daniels, 1950

“...Some essential details are omitted from the report, possibly because of required brevity. This leads one to consider if it is possible, in planning a trial, in reporting the results, or in assessing the published reports of trials, to apply criteria which must be satisfied in the analysis is to be entirely acceptable.”

The team responsible for designing, coordinating and reporting the MRC randomised trial of streptomycin for pulmonary tuberculosis, 1947-1948
(with administrative assistance from Mrs Chirene Agnew)

Philip D’Arcy Hart  Marc Daniels  Austin Bradford Hill
Austin Bradford Hill, 1965

Four questions to which readers want answers when reading reports of research.

1. Why did you start?
2. What did you do?
3. What answer did you get?
4. And what does it mean anyway?
Four questions to which readers want answers when reading reports of research.

1. Why did you start?
2. What did you do?
3. What answer did you get?
4. And what does it mean anyway?
“Good systematic reviews provide a valuable foundation for new research initiatives.”

Lancet 1993;342:221-223.
The use of systematic reviews when designing studies

Nicola J Cooper*, David R Jones* and Alex J Sutton

Conclusions  Cautious interpretation of these results is necessary, but it is apparent that the proportion of study investigators using Cochrane or other systematic reviews in designing their new studies was very limited. Inclusion of encouragement in publication or application guidelines to consider and cite review results is desirable. Clinical Trials 2005; 2: 260–264. www.SCTjournal.com
Find out what’s known already before embarking on new research

Systematic review of therapeutic interventions in human prion disease
Lesley A. Stewart, Larysa H.M. Rydzewska, Geraldine F. Keogh and Richard S.G. Knight

*Neurology* 2008;70;1272-1281
DOI: 10.1212/01.wnl.0000308955.25760.c2

**Conclusions:** Thirty years of clinical investigation of patients with prion disease has resulted in little progress in either defining or evaluating potential treatments. Disease course and treatment of all patients must be evaluated within a structured framework, preferably within randomized controlled trials. *Neurology* 2008;70:1272-1281
Randomized controlled trials of aprotinin in cardiac surgery: could clinical equipoise have stopped the bleeding?

Dean Fergusson\textsuperscript{a, b}, Kathleen Cranley Glass\textsuperscript{b, c}, Brian Hutton\textsuperscript{a} and Stan Shapiro\textsuperscript{b, c, d}

Clinical Trials 2005; 2: 218–232
Figure 6  Citations of prior publications.
The failure of clinical scientists to prepare and refer to systematic reviews of existing evidence has resulted in:

harm and wasted resources in health care and wasted resources in health research
Four questions to which readers want answers when reading reports of research.

1. Why did you start?
2. What did you do?
3. What answer did you get?
4. And what does it mean anyway?
Discussion Sections in Reports of Controlled Trials Published in General Medical Journals

Islands in Search of Continents?

Michael Clarke, DPhil; Iain Chalmers, MSc

*JAMA. 1998;280:280-282*

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<tr>
<td>Discussed a previous review but did not attempt to integrate new results</td>
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<tr>
<td>No apparent systematic attempt to set new results in context of other trials</td>
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The International Stroke Trial (IST): a randomised trial of aspirin, subcutaneous heparin, both, or neither among 19 435 patients with acute ischaemic stroke

International Stroke Trial Collaborative Group*

Taking the IST together with the comparably large Chinese Acute Stroke Trial, aspirin produces a small but real reduction of about 10 deaths or recurrent strokes per 1000 during the first few weeks.
Discussion Sections in Reports of Controlled Trials Published in General Medical Journals

Mike Clarke, DPhil
Phil Alderson, MBChB
Iain Chalmers, DSc

JAMA. 2002;287:2799-2801

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Reports of clinical trials should begin and end with up-to-date systematic reviews of other relevant evidence: a status report

Mike Clarke¹  Sally Hopewell¹  Iain Chalmers²


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Why promote the findings of single research studies?

PERSONAL VIEW Paul Wilson, Mark Petticrew

"Since when has a single scientific study constituted ‘the truth’ about anything?"

Medical journals can do more to ensure that researchers actually do discuss the findings of primary studies in the context of the existing and relevant evidence base. The Academy of Medical Sciences in London has recently argued that researchers, funders, and institutions should take greater responsibility for the accurate communication of non-experimental research. In truth, the research community as a whole needs to be more circumspect when it comes to the active promotion of primary research. Although all research has an audience, and should be made accessible, not all research can or should have an impact on practice or policy.

BMJ 2008;336:722 (29 March), doi:10.1136/bmj.39525.447361.94
Putting clinical trials into context

In recognition that journal editors have a key part to play in ensuring that published research is presented in a way that clearly illustrates why it was necessary and what impact a particular trial has on the existing state of knowledge, The Lancet has decided to update its policies in this area. From August, 2005, we will require authors of clinical trials submitted to The Lancet to include a clear summary of previous research findings, and to explain how their trial’s findings affect this summary.

Charles Young, Richard Horton
The Lancet, London NW1 7BY, UK

www.thelancet.com Vol 366 July 9, 2005
Improving syntheses of research findings (systematic reviews)
1987

1988
Electronic dissemination and maintenance of systematic reviews of controlled trials of perinatal care:


1995-: *Cochrane Database of Systematic Reviews* (CDSR)
The Cochrane Collaboration

Preparing, maintaining and promoting the accessibility of systematic reviews of the effects of healthcare interventions
SECTION VI:

PREPARING AND MAINTAINING SYSTEMATIC REVIEWS
(‘The Cochrane Collaboration Tool Kit’)
Editor: Andy Oxman
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Fax: +47 22 04 25 95
E-mail: GENERAL@COCHRANE.CO.UK

Associate Editors:
Iain Chalmers, Mike Clarke, Murray Enkin, Ken Schulz, Mark Starr
Citation frequency of *Cochrane Database of Systematic Reviews (CDSR)* (June 2008):

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First **Impact Factor** for *CDSR*: **4.654**

[14th of 100 journals in Thomson ISI category for Medicine, General & Internal]