Primers in systematic reviews: enhancing capacity to use reviews

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Evidence-informed Practices

the conscientious, explicit and judicious use of the current best evidence in making decisions


Evidence-informed Practice requires that decisions about health care are based on the best available, current, valid and relevant evidence
Systematic review

“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.”


A readable unbiased transparent and up-to-date summary of ALL the evidence
Number of existing systematic reviews
Using systematic reviews

Conduct of research

Avoiding waste in medical research
*Lancet* 2014

Use of research to inform decision making

Evidence informed *policy* and *practice*
Accredited short course
Liverpool School Tropical Medicine
Stellenbosch University

Offered by Effective Health Care Research Consortium
• Cochrane Infectious Diseases Group
• Cochrane South Africa
• Centre for Evidence based Health Care
AIM OF THIS COURSE

- To help participants understand, appraise and use systematic reviews, with a focus on reviews of effects.
Objectives of course

By the end of the course participants will be able to

• Outline the rationale for research synthesis
• Identify components of a high quality Cochrane Review
• Access Cochrane Reviews after formulating clear questions using PICO
• Critically appraise reviews of effects, including statistical interpretation of meta-analysis
• Be able to interpret a GRADE profile
• Outline key components that need to be considered in applying to health policy and practice
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<th>Before course</th>
<th>Pre reading</th>
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<td>Day 1</td>
<td>RCTs</td>
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<td>Introduction to rationale for systematic reviews</td>
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<td>Day 2</td>
<td>Systematic reviews: structure and read reviews</td>
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<td>Searching for systematic reviews</td>
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<td>Day 3</td>
<td>Meta-analysis: What it is and interpreting results</td>
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<td>GRADE</td>
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<td>Day 4</td>
<td>Evidence into policy and practice</td>
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<td>Post course</td>
<td>Reflection</td>
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<td>1. Prior to workshop</td>
<td>2. Workshop</td>
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<tr>
<td>Recruit participants</td>
<td>Use combination of interactive sessions and presentations</td>
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<td>Logistics</td>
<td>Encourage learning by doing</td>
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<td>Pre-reading</td>
<td>Use techniques appropriate to expected outcomes</td>
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<td>Facilitator preparation</td>
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### 4. Quality assurance
- Facilitator meetings before and after each day of workshop
- On-going reflection and refinement of material and content

### 5. Monitoring and evaluation
- Evaluation of workshop
“learners are not empty vessels in which knowledge can be passively unloaded ...” (Heidigger, 1967)
Teaching approach

• Seminar and group work
• Focus on systematic reviews relevant to country
• Learning by doing
• Reflection
• Feedback
Example of teaching tool

LSTM-Stellenbosch Course
Appraisal of a trial
DAFI the duck

1. Description
   - Objective (look at title)
   - Methods (include whether cluster or individually randomised)
   - Participants
   - Interventions (list by arms)
   - Outcomes measured (main)
   - Other outcomes

2. Risk of bias appraisal
   - Sequence generation
   - Allocation concealment
   - Blinding
   - Incomplete outcome data
   - selective reporting
   - Other bias

3. Findings
   - Summarise the results
   - Consider the statistical significance
   - Consider in the light of the risk of bias appraisal

4. Interpretation
   - What do the main findings mean?
   - Can the results be generalised?
   - How does this compare with previous reports?
   - What implications for research?
   - What implications for practice?

- Description
- Appraisal
- Findings
- Interpretation
An online learning management site contains all the material of the course, allows for engagement with participants before, during and after the course.
What do the participants say about the course?

- Liked interactive sessions. Real situation examples.
- The approach of training is Super “no sleeping in class”
- It’s a very good practical workshop
- Excellently prepared, practical, supplemented by documents and reading and website
- An eye opener in the field of research and systematic reviews

Participants enjoyed the participatory nature, use of relevant examples, blended teaching approach and teaching style, and called for expansion and roll out of the workshop to reach a wider audience.
Online course

- Increasing demand
- Set-up with interaction
- Piloted
- Now being offered
Online Primer in Systematic Reviews

- **Orientation (~1 Week)**
- **Main Primer (6 weeks)**
- **Post course access (~4 weeks)**

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<td>EBP + Phrasing questions</td>
<td>RCTs + ROB</td>
<td>Finding, reading and appraisal of SRs</td>
<td>Interpreting SR results</td>
<td>GRADE + SoF Tables</td>
<td>Knowledge Translation</td>
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“Pushed me into new boundaries and new things that I was very happy to learn” (2017)

54 Primer participants to date
In conclusion
Avoiding waste in medical research

Figure: Avoidable waste or inefficiency in biomedical research

Lancet 2014
‘Know-do gap’

- Gap between what is known and what is done in practice.
Increasing *understanding and use* systematic reviews is essential in

– promoting evidence-informed practices
– identifying relevant new research questions
We will serve the public more responsibly and ethically when research designed to reduce the likelihood that we will be misled by bias and the play of chance has become an expected element of professional and policy making practice, not an optional add-on.

Iain Chalmers
Acknowledgements

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• GESI

Effective Health Care Research Consortium
www.evidence4health.org, funded by UKaid from the UK Government for International Development.
Promoting and supporting evidence-informed health care

- Website: www.sun.ac.za/cebhc
- Facebook: www.facebook.com/cebhc
- Twitter: @cebhc