

Poster presented at the 3rd International Evidence-Based Librarianship Conference, 16-19 October 2005, Brisbane, Australia. This handout closely resembles the poster.

IF A CLIENT ASKS ABOUT EVIDENCE-BASED PRACTICE, WHAT DOES IT MEAN FOR YOU?

A. J. Meier
Information Officer
Centre for Automotive Safety Research
University of Adelaide
andrew@casr.adelaide.edu.au
Tel +61 8 8303 5890

The evidence-based movement continues to spread across sectors - from health to areas such as education, crime prevention and transport. This means that information professionals serving in an increasing number of sectors need to be aware of not only the growing importance of the concept but the practicalities involved in providing information on interventions evaluated with higher methodological standards. Are libraries and librarians ready to respond?

NOT JUST WHAT IT IS BUT THE WAY IT WAS DONE

The evidence-based movement focuses on the methods of evaluating a real-world intervention, and deciding on how much weight to give the findings of an experiment, by looking at how it was conducted. Some of the key terms are:

Randomisation - Objects of the study (eg. people, sites) are chosen randomly to avoid bias in the selection process which in turn may influence the outcome.

Control group - Use of untreated study sample as a comparison to the treated sample. Allows for changes in outside factors that may have influenced the outcome to be taken into account.

Meta-analysis - Assessment of all studies that can be located on a particular topic (known as a systematic review) and incorporating a ranking of the strength of the studies based on criteria such as use of randomisation and controls and sizes of sample groups.

So the methodology employed in a study gives information on the 'evidence-base' it supplies - a study which randomly assigned participants to treatment and control groups is seen

to provide stronger evidence than one in which there is a control group but no random assignation. A meta-analysis, because it combines the findings of studies, is seen as the strongest level of evidence. It relies on what has been done before. If there are no randomised studies and possibly only a few controlled studies on a topic then one might conclude that the only evidence it provides is that there is not enough evidence.

SO IF A CLIENT APPROACHES YOUR LIBRARY...

Not a problem - if you are in a field such as medicine where the evidence-based movement is well established and indexing of research methodology is commonplace

Quite a problem - if you are in other fields

The extent of a client's knowledge. They have been to a seminar, heard the phrase "evidence-based" mentioned and now want to see how it applies to their field of interest - this may be anything from water filtration schemes to crime prevention programs. The client doesn't know about levels of evidence, randomisation and controls - does the librarian?

Red herrings. With the spread of the evidence-based movement has come widespread ambiguity of the term itself. An evidence-based label may mean a randomised experiment (hopefully) or (more likely outside medicine) an evaluation of any sort which has been published and therefore is now an "evidence-base". A search for evidence-based material in many fields without basic knowledge of levels of methodology is asking for trouble.

The following document is a good example of a 'red herring':

Tilley N, Laycock G (2002) Working out what to do: evidence-based crime reduction. Crime Reduction Research Series Paper 11. London: Home Office
<http://www.homeoffice.gov.uk/rds/prgpdfs/crrs11.pdf>

On outward appearance the use of the phrases "evidence-based" and "what to do" in a report from a national government department might indicate that this document incorporates a meta-analysis of high quality experimental interventions in the area of crime prevention. But there are wide variety of strongly-held opinions about levels of evidence and some authors may not be enthusiasts for randomisation as the gold standard in evaluation. Check beneath the title to ascertain what "evidence" a document actually offers.

Searching limitations. Even if you know what you are looking for, and what the client wants, the tools you turn to may not

be very helpful. If your library hasn't been indexing material with subject headings for methods, as well as for topic, then your catalogue won't be any assistance. Citation databases may help for more recently published material where the abstract mentions the method of the experiment, but won't assist you to find earlier items indexed before methodology was stressed in introductions. And material published decades ago can be quite important if the methods employed in the study were high standard. Then there is the vast amount of grey literature - amongst the red herrings there may be some quality studies - but they too may be 'hidden' in the report database of a research centre or university. The locating of grey literature is an important part of systematic review and meta-analysis process, attempting to ensure that evaluations conducted with high methodological standards, but whose results have not been widely circulated (perhaps because of adverse findings), are not omitted.

You may like to read the following:

Grayson L, Gomersall A (2003) A difficult business: finding the evidence for social science reviews. ESRC UK Centre for Evidence Based Policy and Practice Working Paper 19. ADD URL

Wentz R, Roberts I, Bunnv F, Edwards P, Kwan I, Lefebvre C (2001) Identifying controlled evaluation studies of road safety interventions: searching for needles in a haystack. *Journal of Safety Research* 32(3): 267-276

SHOULD YOU BE WORRIED?

While clients in sectors outside of medical-related fields may not be lining up with evidence-based reference questions, the move towards higher levels of evidence in evaluation is spreading.

For example the United States Department of Education published full text online in 2003 - *Identifying and implementing educational practices supported by rigorous evidence: a user friendly guide* - a document describing levels of evidence and aimed at all educational practitioners:

<http://www.ed.gov/rschstat/research/pubs/rigorousetid/rigorousetid.pdf>

To see what is happening in the social sciences sector, see the Campbell Collaboration clearinghouse at:

<http://www.campbellcollaboration.org>

As an example of the state of play in a more specific field see this road safety paper:

Hutchinson TP and Meier AJ (2004) Evidence-based road safety policy? Evidence-based transport policy? A discussion of randomised experimentation and meta-analysis in the evaluation of interventions. In *Papers of the 27th Australasian Transport Research Forum 29 September-1 October 2004, Adelaide, South Australia* Adelaide: South Australian Department of Transport and Urban Planning and Transport Systems Centre, University of South Australia.

And governments are also producing guidelines on policy making for all fields that discuss levels of evidence in some detail. For example see the Magenta Book from the United Kingdom at:

http://www.policyhub.gov.uk/magenta_book/index.asp

That evidence-based reference question may be coming sooner than you think!

WHAT COULD BE DONE IN YOUR FIELD?

Search filters - Could retrieval of evidence-based material be improved by developing search strategies for particular databases, as has been the practice in medical fields?

Search filters have been successful in medicine, allowing large search results of evidence-based items to be limited to those using particular methods. They are unlikely to work in most other fields as methodology has been rarely indexed. Material indexed without stressing methodology, and minus an abstract, is still likely to be missed without retrospective indexing or hand searching.

Retrospective indexing - Should material be re-indexed to improve retrieval?

Justifying the time and money spent re-cataloguing the holdings of one library, let alone co-ordinating efforts for an entire field is difficult, especially when it is not certain that the evidence-based movement will become as entrenched as it is in medicine. Yet calls have been made for wide scale retrospective indexing in fields such as road safety. See:

Roberts I, Bunn F, Wentz R (2001) *How can we discover what works in the prevention of road traffic crashes?* in Peden M (ed) Proceedings of WHO meeting to develop a 5-year strategy for road traffic injury prevention Geneva: World Health Organisation, p48-49

Retrospective indexing is a costly exercise, whether on a local or field-wide scale, but so is conducting an experiment or implementing interventions without knowing whether the same thing has been done before.

You may also like to read:

Eldredge JD (2000) Evidence-based librarianship: searching for the needed EBL evidence. *Medical Reference Services Quarterly* 19(3): 1-18

Ford N, Miller D, Booth A, O'Rourke A, Ralph J, Turnock E (1999) Information retrieval for evidence-based decision making. *Journal of Documentation* 55(4): 385-401

Murphy SA (2002) Applying methodological search filters to CAB Abstracts to identify research for evidence-based veterinary medicine. *Journal of the Medical Library Association* 90(4): 406-410

WHAT YOU CAN DO ...WHEN THE CLIENT COMES

As with any reference query parameters need to be set.

Be informed enough to take on a educative role - teaching the client when they make the initial approach about strong and weak meanings of "evidence".

Expect difficulties in most fields in locating material specifying methodology. Explain to the client what may be possible and how time consuming the task may be - do they want you to hand search older material for example?

WHAT YOU CAN DO ...NOW

Get cataloguing to create your own search tools - at least start indexing new material with evidence-based terms. And consider making a business case for retrospective cataloguing - building an "evidence-base" for your organisation.

Spread the word - tell others in the profession (especially students and new graduates) so that whatever field they may work in they might be prepared for a rise in the public profile of evidence-based evaluation.

The Centre for Automotive Safety Research receives core funding from both the Motor Accident Commission and the Department for Transport, Energy and Infrastructure in South Australia.

The views expressed in this poster/handout are those of the author and do not necessarily represent those of the University of Adelaide or sponsoring organisations.