

*Database selection bias and its affect on
systematic reviews: a United Kingdom
perspective*
Alan Gomersall & Chris Cooper

The Centre for Evidence & Policy

Operates the Evidence Network which provides:

- *Evidence based policy and practice bibliography*
- *Key information resources – databases, gateways*
- *Newsletter for Associates*
- *EBPP Associates list*
- *E-mail facility for Associates' enquiries*
- *Breaking News*
- *Searching services in health and social policy (priced)*
- *A file of references to over 700 systematic reviews and meta analyses on social care and public health*

Systematic reviews and meta-analyses

- *Selected from major social science databases produced in UK and USA*
- *Full papers obtained from British Library and assessed for relevance and quality*
- *Passed to abstractor to produce extended abstracts for inclusion in the UK database Social Care Online (SCIE)*

Systematic reviews and meta analyses assessment

We examine the documents for the list of databases used

We assess their relevance/appropriateness for the subject under review

We examine the search strategy (if it is present) and make a judgment as to accuracy, comprehensiveness and relevance

Approximately 25% are rejected as not systematic!

What are our findings

Database selection varies:

- *Limited to one, two or three titles – often PubMed only but usually Medline, Embase and Web of Knowledge or PsycInfo regardless of the subject*
- *No specialist social science databases used at all*
- *Only USA produced sources used regardless of reviews where a country other than USA is under examination*
- *Confusion between hosts and databases*
- *Search strategies often missing or inadequately presented*

Where does grey Grey Literature fit in?

- *Consultants reports**
 - *Some government and parliamentary reports**
 - *Virtually all local government documents*
 - *Charity and voluntary sector publications**
 - *Academic working papers and research reports**
 - *Practice notes and guidance documents*
 - *Papers from research institutes**
- * Likely to be of research standard*

It doesn't (grey literature) but:

- *It can make a valuable contribution to research/practice*
- *More UK social science academics producing reports under contract to external bodies rather than producing peer reviewed papers*
- *USA produced databases are weak in their coverage*
- *UK databases are strong eg Social Policy & Practice, Planex; ChildData; Community Abstracts; AgeInfo; Social Care Online*

What is the impact on systematic reviews

- *Strong but inappropriate USA bias in UK social care reviews*
- *Failure to evaluate (or even find) grey literature ; research reports etc*
- *Substantial numbers of missed references from UK research journals*
- *Advice to government ministers incomplete at best and at worst strongly biased or misleading*
- *Danger of social policies in the UK being based on USA social conditions*

Examples of rejected Systematic Reviews

- *Three UK SRs published in 2010 on **social issues of aging** all failed to search a single social science database.*
- *A UK SR on **interventions for homeless youth** failed to search any social science databases – Social Policy & Practice; ChildData and ChildLine should have been top of the list.*
- *A report in 2010 for a government policy unit entitled “**Short breaks provision on disabled children and families: an international literature review** (UK) searched just four American databases.*
- *A UK SR on **sport and ethnic minorities** announced that Web of Knowledge, Social Science Citation Index(?) and Zetoc were inadequate as you could only search on titles! It failed to search Planex and Urbadoc – both with substantial coverage of local government support for ethnic minority sport and physical education*

Examples of rejected Systematic Reviews

Systematic review and meta analysis of interventions relevant for young offenders with mood disorders, anxiety disorders or self harm (UK)

- *Searched Embase, Medline and PsycInfo, NCJRS but claimed to have carried out “an exhaustive search of worldwide literature”*
- *Failed to search CJA, SPP, ASSIA; IBSS; Soc Abs, Web of Knowledge, Scandinavian Criminology Bibliography; Scopus, BL Direct, BL Catalogue*

Caregiving and adults with intellectual disabilities affected by dementia (UK)

- *Searched Embase , Medline and PsycInfo - no social science databases searched. Search strategy vague – main keyword ‘mental retardation’!*

Examples of rejected Systematic Reviews

- *Effective early childhood education programmes: a best-evidence synthesis (UK)*

Only searched USA sources. Failed to search ChildData; Social Policy & Practice , British Education Index

- *Public area CCTV and crime prevention: an updated systematic review (USA/UK joint)*

Searched 9 USA databases (including Medline!!!) and no UK sources. Described Medline as a new database. Centre searches of UK databases (Planex, Urbadoc, Community Abstracts found another 35 possibly unique evaluations apparently missed by reviewers

- ***Measuring exposure to health messages in community based intervention studies: a systematic review of current practices (USA)***

Only searched PubMed; failed to search a single social science database from either the UK or USA. No search strategy given

- ***The built environment and obesity: a systematic review of the epidemiologic evidence (USA)***
- ***Health & Place 2010***
- ***Only searched PubMed; failed to search a single social science database from either the UK or USA. Yet obesity is also a social issue. No search strategy given but keywords listed – many quite strange and many relevant keywords missed.***
- ***Of the 63 studies examined one was published in the UK; 5 Australia; 2 Canada; and one each from Denmark and Sweden, 53 from USA.***

Why is this happening

- *Limited or no knowledge of sources*
- *Absolute trust in database quality and comprehensiveness*
- *Poor portfolios of databases in some institutions (none in some)*
- *Searching seen as an under-labourer's job*
- *Searching carried out by part time PGs with no training*
- *Unwillingness to accept that social care is not medicine*
- *Peer reviewers lack of knowledge of correct sources*
- *Total reliance on Google*
- *Lack of knowledge of British Library database holdings*
- *laziness?????*

Is it ignorance or arrogance?

The impacts of short break provision on disabled children and families

International review published 2010 for a UK Government department's policy unit.

Searched ASSIA, PsycInfo, Cinahl, Web of Science.

Failed to search a single UK, European or Australian database.

Search strategies presented were incomplete – 'children' and 'families' not used in some strategies

56 papers and reports identified:

17 - USA; 29 – UK; 3 – Ireland; 5 – Canada; 1- Australia

Databases not searched

- *Social Policy & Practice (UK)*
- *Community Abstracts (UK)*
- *Index to Theses (UK)*
- *British Library Catalogue (free)*
- *BL Direct (Zetoc) (free)*
- *FRANCIS (French)*
- *Family & Society (Australia)*
- *IBZ (German)*
- *IBSS (UK) possibly 'migrating' to the USA*
- *Social Services Abstracts (US)*
- *Social Work Abstracts (US)*

Centre searches on short breaks

Search strategies compiled from terms listed in systematic review and enhanced

Applied to Community Abstracts; BL Direct; Social Policy & Practice; British Library Catalogue; BL Direct;*

(Short break or short stay*) and famili* or child*) and (disab* or handicap* or mental)*

**SPP includes the following UK databases:*

Planex; Urbadoc; Social Care Online; AgeInfo and ChildData

The impact of short break provision on disabled children and families - Results

Social Policy & Practice identified 612 references – 58% relevant substantial papers/reports

Community Abstracts identified 74 relevant papers/reports

Both included substantial numbers of reports from various UK bodies

BL Direct identified 54 relevant references (all journal papers 2005-2010)

BL Catalogue identified approx 38 relevant books/reports from 98 hits (simplified search strategy)

The impacts of short break provision on disabled children and families - Author check

5 authors selected from text checked in SPP and the report for currency and relevance of their papers.

Stalker, K 14 relevant papers/reports/books in SPP (1984-2004); 2 references in report (1988 - 2000)

McConkey, R 10 relevant papers/reports in SPP 1998-2008; 3 refs in report-2000/04/08

McGill, P 4 relevant papers in SPP 1996-2009; 3 in report 1996/2006/2009

Carlin, J 4 key papers/books in SPP 2004-2009; 1 in report 2008

Preece, D Key researcher whose papers were missed altogether

Comments & Caveats

- *Poor coverage of current references*
- *Many key papers by leading researchers missed*
- *Most books and reports missed*
- *However good the evaluation/synthesis proves to be bias has been created by failure to identify the correct documents*

- *Our judgements were made on abstracts only*
- *We had no record of any papers or reports rejected by the authors which will have matched some of our unique evaluations from UK databases*

Overall analysis

- *Searching USA produced databases only has failed to identify key papers/reports from other countries*
- *Poor search strategies have failed to identify relevant documents*
- *The review is biased towards references which appear in USA sources*
- *Several papers by a key researcher David Preece have been missed*
- *The most recent papers/reports by some authors have been missed*
- *Grey literature has been missed*

What should be done

- *Training of undergraduates in database awareness and search techniques*
- *Make such training part of social science courses not just handouts provided by the library in the first week of the academic year*
- *Train students in library schools in the use and awareness of databases (not relying on deals from Web of Knowledge)*
- *The British Library should market its research facilities to the social science community*
- *Other ideas??????*

Bibliographic databases for social care searching

Clapton, J

London SCIE 2010 Research Review 34

<http://www.scie.org.uk/publications/reports/report34.asp>

The study was based on source analysis of relevant search output for the C4EO Vulnerable Children scoping studies.

A key finding was that ChildData and Social Care Online were among the top three most relevant databases for the topic, and also ranked highly on unique coverage (out of 16 databases).

***When is a search not a search? A comparison of searching the AMED complementary health database via EBSCOhost, OVID and DIALOG
Paula Younger & Kate Boddy, Exeter Health Library, Royal Devon and Exeter NHS Foundation Trust and Complementary Medicine, Peninsula College of Medicine and Dentistry, Universities of Exeter and Plymouth, Exeter, UK***

Health Information & Libraries Journal 2008 26(2) pp126-135

*Centre for
Evidence and Policy*

Alan Gomersall & Chris Cooper

King's College London

alan.gomersall@kcl.ac.uk

www.evidencenetwork.org

<https://www.kcl.ac.uk/schools/sspp/interdisciplinary/evidence/database/login.php>