Mapping the evidence for natural disasters and humanitarian emergencies: a comparison of database search yields for Evidence Aid

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evidence aid

INTRODUCTION / BACKGROUND

Evidence Aid[1] was established following the Indian Ocean tsunami in December 2004 and is a co-ordinated international initiative to improve effective and timely access to systematic reviews on the effects of interventions and actions of relevance before, during and after natural disasters and other humanitarian emergencies, to improve health-related outcomes.

Evidence Aid seeks to highlight which interventions work, which don't, which need more research and which, no matter how well meaning, might be harmful; and to provide this information to individuals, governments and others planning for, or responding to, natural disasters or humanitarian emergencies.

In 2011 Kleijnen Systematic Reviews Ltd (KSR) were asked to conduct a mapping exercise on behalf of Evidence Aid. The exercise was intended to identify randomised controlled trials (RCTs) and systematic reviews relevant to natural disasters and humanitarian emergencies, by searching a variety of resources covering biomedical, health, nursing, economics and social sciences.

OBJECTIVES

Unlike a systematic review, the aim of the mapping exercise was not to find everything on a specific area, but to retrieve examples of trials and reviews from across a range of suggested topics.

The aim of this follow-on project was to carry out a post-hoc analysis of the retrieved RCT references, based on the methods outlined by Beyer & Wright[2], to investigate which of the databases searched yielded:

• the greatest proportion of included unique records,
• lowest number needed to read in order to locate an include,
• identify a core group of useful resources.

It was hoped that this analysis will help inform database selection as the Evidence Aid project moves forward.

METHODS

Twenty-three databases were searched for the mapping exercise, resulting in a total of 14028 references retrieved. Separate searches were conducted for RCTs (n=8412) and systematic reviews (n=2984) on sixteen of the 23 resources. An additional seven resources were searched without a study filter (n=2632). The references were screened independently by both Tom Clarke and Mike Clarke at Evidence Aid. This study examined recall of the RCT references only.

A database of the RCT results was created using Endnote X4 software. Excel was used to record all included references identified during the first screening. This list was checked against the database to identify which search strategies, devised for each resource, retrieved them.

The data were examined to identify: total yield by database, total and unique yield of included studies and Number Needed to Read (NNR) to detect relevant RCT references.

RESULTS / LIMITATIONS

The review included 94 unique records, from a total yield of 8415. Social Science Citation Index (SSCI) performed best, retrieving 32% of all the unique includes. However SSCI had an average Number Needed to Read of 21, with 78 includes from a total yield of 1657 records. The database with the lowest NNR was PILOTS (NNR=4), which had the second highest number of unique yields (n=22). EconLit and LILACS did not retrieve any included studies, whilst Sociological Abstracts found only one non-unique include, giving the highest NNR of 816.

Total yield of retrieved studies

Number of unique includes

Number Needed to Read

NNR (to nearest whole number)
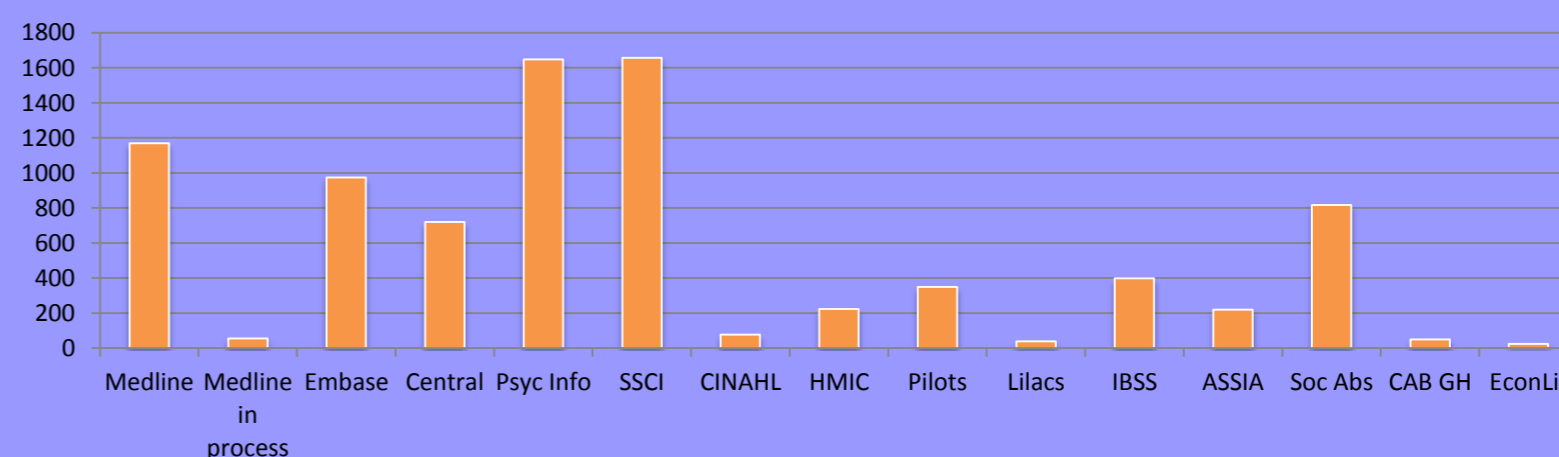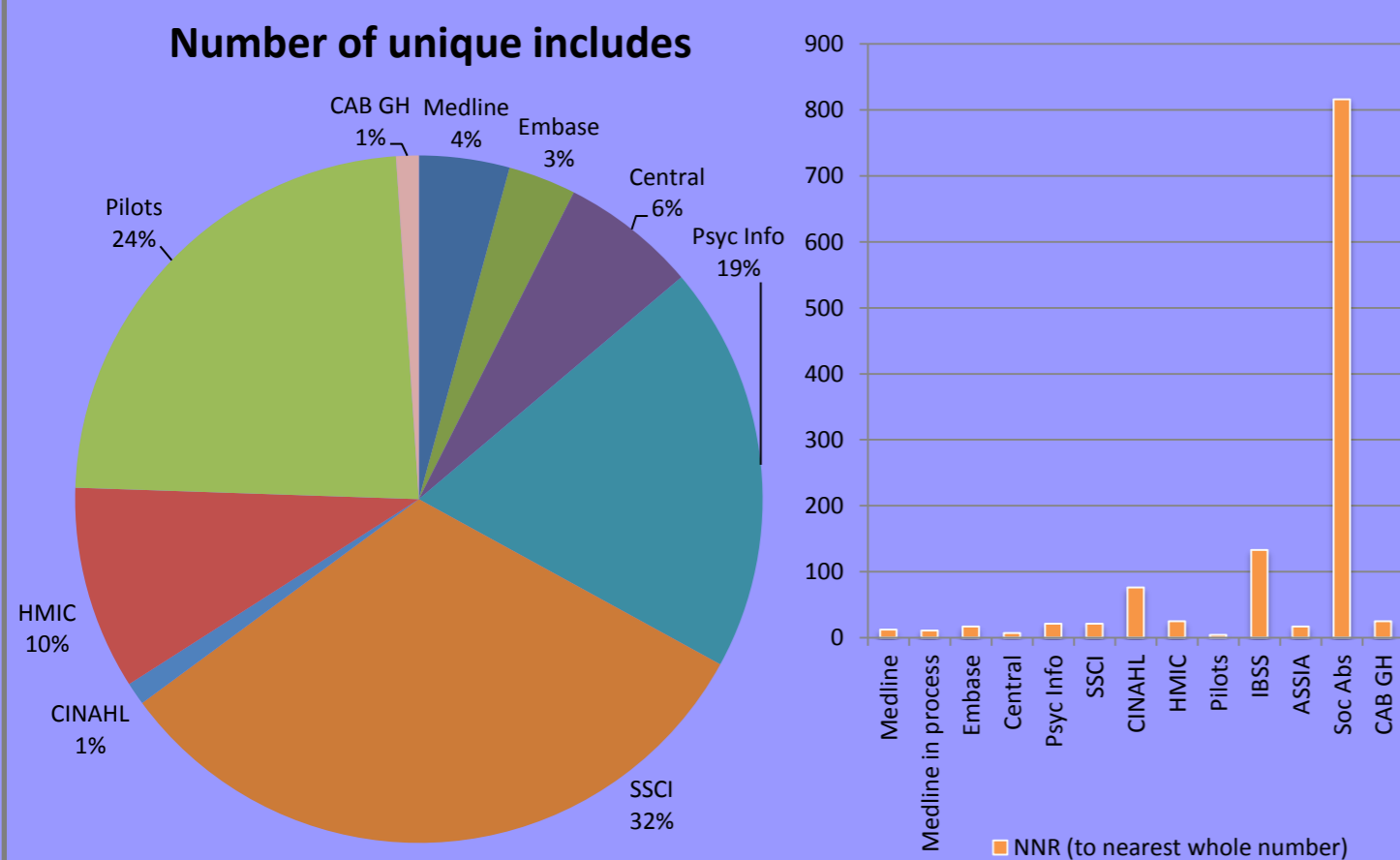
From the 15 resources included, a minimum combination of nine was required to retrieve all included studies: SSCI, PILOTS, PsycInfo, HMIC, Central, Medline, Embase, CINAHL and CAB Global Health. Given the nature of these searches, there are a number of limitations that must be addressed when looking at these results including:
• The usefulness of LILACS cannot properly be ascertained at this point. The large number of non-English language abstracts were not translated due to time limitations.
• During screening, several new focussed topics were identified which were not included in the original scope, e.g. Post Traumatic Stress Disorder (PTSD). The inclusion of PTSD accounts for the high relevance rate of the PILOTS database.
• Where possible, we applied objectively derived RCT filters. In the absence of a database-specific filter, an adaptation was used. It is unclear how well the adapted filters performed, especially when used on Social Science resources. This is a topic that we would hope to investigate further.

CONCLUSIONS

Whilst not intended to provide a definitive list of resources, we hope this review has helped to prioritise a list of core databases, to which topic-specific resources can be added. We also identified potential new focussed topics e.g. PTSD for further investigation.

Future steps for this project include:
• analysis of the recall of systematic review and combined searches,
• analysis of the impact of adapted study design filters on recall.

REFERENCES

[1] Evidence Aid [Internet]. Cochrane Collaboration; 2011 [cited 28.11.11]. Available from: http://www.EvidenceAid.org

[2] Beyer, F. & Wright, K. (2011) Comprehensive searching for systematic reviews: a comparison of database performance. Poster presented at the 19th Cochrane Colloquium; 19-22 Oct 2011; Madrid, Spain.

More information about Evidence Aid: www.evidenceaid.org / Twitter: @evidenceaid / Facebook: Evidence Aid / General enquiries to: callen@evidenceaid.org

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