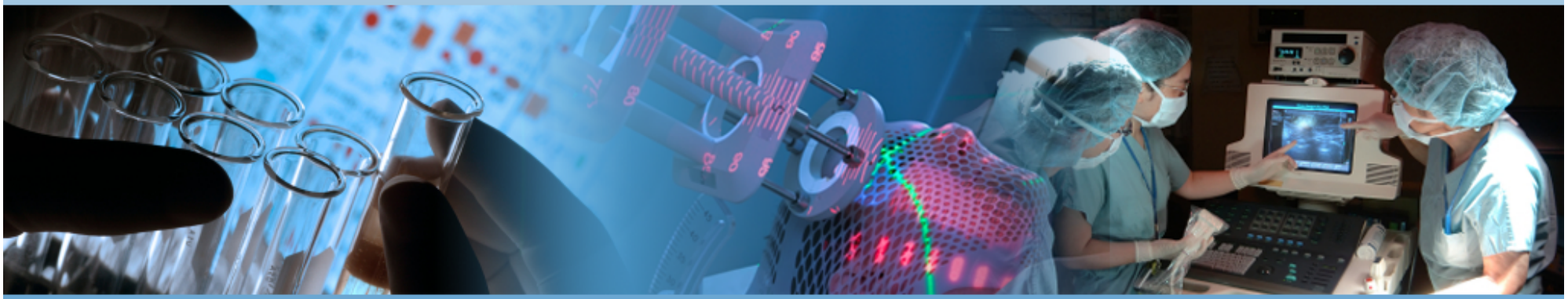
Keeping up to date with information retrieval research: Summarized Research in Information Retrieval (SuRe Info)



Su Golder, University of York
On behalf of the SuRe Info team

Background

- There is an increasing amount of research underpinning information retrieval for systematic reviews, health technology assessments and evidence synthesis.
- The identification of the current best practice methods is challenging.

Objectives

- Summarized Research in Information Retrieval for HTA (SuRe Info) aims to develop and present an open web based resource which:
  - identifies and summarises information retrieval methods publications.
  - provides guidance on sources to search and designing search strategies.

Methods

- A group of information specialists have;
  - defined the topic areas for the website
  - written a “how-to” manual to develop each topic area into a chapter.

Project team

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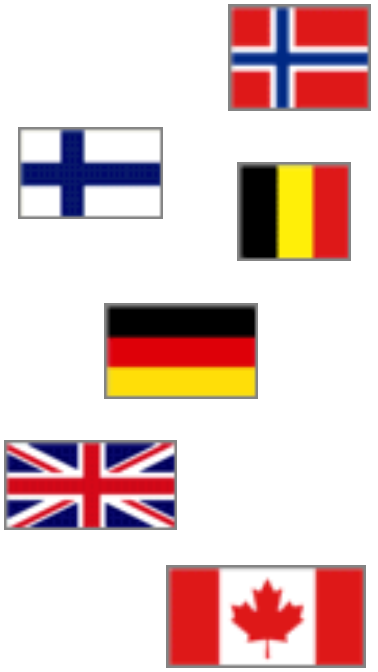

Creating SuRe Info
- an overview

- We run topic-specific search strategies in selected relevant databases
- Publications fulfilling the SuRe Info inclusion criteria receive a structured abstract containing a brief critical appraisal ("publication appraisal")
- The key messages from the appraisals are summarized into topic-specific chapters

SuRe Info chapters

1. Chapters on **general search methods** common across all health technologies:

- Sources to search
- Designing search strategies
- Peer reviewing search strategies
- Documenting and reporting the search process

SuRe Info chapters - continued

2. Chapters describing the methods to use when searching for **specific aspects of health technologies**:

- Health problem and current use of technology
- Description and technical characteristics of technology
- Safety
- Diagnostic accuracy
- Clinical effectiveness
- Costs and economic evaluation
- Ethical analysis
- Organizational aspects
- Social aspects
- Legal aspects

Identifying research evidence

- Existing evidence-based resources
- Chapter specific searches in selected relevant databases
- Hand-searching relevant journals
- Other sources, such as personal reference collections and relevant websites

SuRe Info inclusion criteria

1. The research question is relevant to information retrieval for HTA and the SuRe Info chapter in which it is to be included.
2. The publication provides latest evidence on a specific methodological issue.
3. The publication includes research findings of a completed scientific study (including reviews, evidence syntheses and theses).
4. The publication describes the scientific methods used in the study.
5. The results of the publication are generalizable or usable to other HTA information specialists or transferable to other projects or studies.

Included publications receive a publication appraisal

TEMPLATE

- Full reference
- Names of the reviewers
- Short description of the study
- Limitations stated by the study author(s)
- Limitations stated by the reviewers
- SuRe Info keywords
- Study type
- Related SuRe Info chapters
- Supplemental publications to the study
- Comments from the study author(s)

Appraisal of: McKinlay RJ, Wilczynski NL, Haynes RB, Hedges Team. Optimal search strategies for detecting cost and economic studies in EMBASE. BMC Health Serv Res 2006;6:67.

Reviewer(s):
David Kaunelis
Julie Glanville
Full Reference:
Optimal search strategies for detecting cost and economic studies in EMBASE.
Short description:
This study reported the development of a search strategy for cost and economics studies in Embase. The gold standard was created by handsearching 55 journals for the year 2000. The authors provide strategies to find studies about costs and about economic studies broadly defined. A cost strategy with a sensitivity of 100% and precision of 8.6% is presented along with an economic studies strategy of 100% with 1.4 % precision. Best compromise strategies are offered for costs (sensitivity 98.4% and precision 18.2%) and economics (sensitivity 96.8% and precision 4.3%)
Limitations stated by the author(s):
Precision will be lower when searching the entire Embase database. Multivariate statistical techniques might yield better performing strategies but authors did test a logistic regression approach.
Limitations stated by the reviewer(s):
55 journals were chosen for frequency of yield and these may be different to the wider range of journals which publish cost and economics studies. The handsearched records are for one year only. High impact factor journal were chosen and these may be different to other journals perhaps in terms of encouraging better study reporting. The authors have a broad definition of economics which means their strategy may not be optimized to find economic evaluations.
Study Type:
Single study
Related Chapters:
Costs and economic evaluation

Key messages from the appraisals are summarized into a chapter

Costs and economic evaluation

Author(s):
David Kaunelis
Julie Glanville
Last revised:
2014-05-07

Introduction

This domain focuses on the importance of obtaining information about costs and outcomes as well as efficacy and effectiveness when evaluating new technologies. Economic evaluation is an important part of health technology assessment because it assists with priority-setting between different health technologies. An economic evaluation identifies, measures, values and compares the costs and outcomes of a technology with its relevant comparator.

This domain overlaps with the effectiveness domain and the organizational domain (1).

Sources to search

There are a range of databases which identify and collect economic evaluations and health economics studies (2,3,4,5) to promote efficient retrieval. These databases are built largely from MEDLINE and Embase, but offer a variety of value added information such as critical appraisals, results, categorisations and indexing. These databases can save time in identifying economic evaluations, but may not be comprehensive because of publication lags or geographical focus (NHS Economic Evaluation Database (NHS EED) and the Cost-Effectiveness Analysis (CEA) registry). These factors mean that sensitive searches should also include searches of general medical databases such as MEDLINE and Embase (2,3,6,7,8). There is some evidence that both NHS EED and HEED should be searched since they offer unique references (9). Searching Science Citation Index and conference abstracts (via websites as well as Embase) may also increase retrieval (6).

Searching non-database sources is likely to identify further studies outside of commercial journal publications (6).

The following information sources should be considered when searching for economic evaluations and utility studies:

- Specialist economic databases (NHS EED, CEA Registry and Health Economic Evaluations Database (HEED))
- Technology assessment databases (the Health Technology Assessment (HTA) database)
- General medical literature databases (MEDLINE, Embase)
- Websites of HTA agencies
- Grey literature (conferences such as ISPOR and HTAi; the RePEC economic working papers collection) (2,3)
- Collections of utility studies (10).

Searches to identify information to populate economic models may involve a range of resources ranging from statistical sources

References listed at the end of each chapter are linked to the appraisals

SuRe Info

Reference list

- (1) EUnetHTA Work Package 4. HTA Core ModelTM for Diagnostic Technolog [Publication appraisal] [Free Full text]
- (2) Glanville J, Paisley S. Searching for evidence on resource use, costs, effe (eds). Evidence based economics.Oxford:Wiley-Blackwell;2010. [Further refe text]
- (3) Glanville J, Paisley S. Identifying economic evaluations for health technolo 2010;26(4):436-440. [Further reference details] [Publication appraisal] [Free F
- (4) Alton V, Eckerlund I, Norlund A. Health economic evaluations: how to find t 2006;22(4):512-517. [Further reference details] [Publication appraisal] [Free F
- (5) Nixon J, Duffy S, Armstrong N, Craig D, Glanville J, Christie J, Drummond Economic Evaluation Database to researchers undertaking technology asses 2004;20(3):249-257. [Further reference details] [Publication appraisal] [Free F
- (6) Royle P, Waugh N. Literature searching for clinical and cost-effectiveness reports carried out for the National Institute for Clinical Excellence appraisal s 2003;7(34). [Further reference details] [Publication appraisal] [Free Full text]
- (7) Waffenschmidt S, Hausner E, Engel L, Volz F, Kaiser T. Benefit of search evaluations in German HTA-reports. Abstract presented at: Health Technolog

SuRe Info is published as part of the HTAi Vortal

Future plans

- Invite more people with appropriate content expertise to be involved in the project
- Complete all SuRe Info chapters mid-2015
- Continue updating all chapters twice a year
- Carry out targeted marketing of the web resource

Summary

SuRe Info:

- is an open-access web resource (www.sure-info.org)
- identifies and summarizes current information retrieval methods papers
- offers brief chapters that provide quick overviews of major issues in information retrieval
- seeks to help information specialists and researchers stay up-to-date in the latest developments in the field