What Are Systematic Reviews, And Why Do We Need Them?

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1. Group work – difference between systematic review and literature review

2. Feedback

3. Presentation – What are systematic reviews and why need them

4. Questions

5. Where to find systematic review?

6. Approach to read a systematic review

7. Summaries of systematic reviews

8. Wrap up
Group 1
What is the difference between a literature review and a systematic review?

Group 2
Where do you go for evidence to make better decisions?
Where Do UK Civil Servants Go For Evidence?

- Policy or Practice
- Special Advisers
- 'Experts'
- Professional Associations
- Think Tanks/Opinion Formers
- Lobbyists and Pressure Groups
- Media
- Constituents, Consumers and Users
- Academic/Evaluation Research?
Why Do We Need Systematic Reviews?

Sheer amount of available evidence

“Beyond the capacity of the human mind”
What Are Systematic Reviews?

• A way of establishing the overall balance of empirical evidence on a topic or policy

• And separating higher quality from lower quality evidence

• A way of identifying what is generalisable and what is context specific
Why Do We Need Systematic Reviews?

• Single studies can:
  ➢ Misrepresent the *balance* of research evidence
  ➢ Illuminate only one part of a policy issue
  ➢ Be sample-specific, time-specific, context-specific
  ➢ Often be of poor quality
  ➢ Consequently, give a biased view of the overall evidence
What Makes a Review Systematic?

- Systematic searching for studies
- Systematic critical appraisal of identified studies – separating the wheat from the chaff
- Systematic and transparent inclusion/exclusion of studies for final review
- Systematic and transparent extraction of data
- Systematic statistical testing and analysis
- Systematic reporting of findings
Searching for Evidence

Systematic Searching for Studies

- Electronic Sources
  - Databases
    - Electronic Libraries
      - Internet
  - Electronic Libraries
- Print Sources
  - Journals
  - Textbooks
- 'Grey' Literature
  - Databases (e.g. SIGLE)
  - Conference Proceedings
  - Research Funders
Types of Systematic Review

- Statistical Meta- Analyses
- Narrative Systematic Reviews
- Rapid Evidence Assessments
- Qualitative Systematic Reviews
- Evidence Maps and Gap Maps
Statistical Meta-Analytical Reviews

• Involves data-pooling and statistical synthesis of independent studies

• And aggregating/cumulating samples and findings

• Seeks to measure and control bias

• Requires included studies to be as similar (homogeneous) as possible
Requirements for Homogeneity

Similarity of:

- **P**opulation (or sub-groups)
- **I**ntervention
- **C**omparator
- **O**utcome

Overlapping confidence intervals
Figure 1. Odds ratios and 95% confidence intervals for all offenses by study.

Source: David B. Wilson, 2006, A systematic review of drug court effects on recidivism
Narrative Systematic Reviews

• Provide a narrative account of what the evidence tells us

• Provide descriptive and inferential statistics

• But on each included study individually, not aggregatively

• Provide a summary analysis of what the evidence suggests

• Provide the ‘Signal’ and ‘Noise’ of evidence
Rapid Evidence Assessments – What Are They?

- Scaled down systematic reviews of existing evidence
- Timed to meet the needs of policy makers/practitioners (1-3 months)
- Strategically using the ‘three arms’ of systematic searching, but less exhaustively
- Critical appraisal of identified studies is included
- Summary of findings, with caveats and qualifications
- Not a comprehensive or exhaustive as systematic reviews;
- Hence, REAs are more likely to be subject to statistical bias than a full systematic review;
- We must, therefore proceed with greater caution with REAs.
• Synthesise qualitative and ethnographic evidence
• In-depth interviews, focus groups, observational studies, documentary analysis, case studies
• Seek common themes, concepts and principles across different studies
• Detailed attention to context/contextual specificity
• And stakeholders’ views
• Do not seek generalisations
Sources of Sound Evidence

- Best Evidence Encyclopedia (http://www.bestevidence.org/) - Education
- Campbell Collaboration (www.campbellcollaboration.org) - Education, Crime and Justice, Social Welfare
- Cochrane Collaboration (www.cochrane.org) - Health
- EPPI Centre Library (www.ioe.ac.uk)
- National Institute for Health and Clinical Excellence (http: www.nice.org.uk/) - Health
- Social Care Institute for Excellence (http://www.scie.org.uk/) - Social Care
- Social Programs That Work http://www.evidencebasedprograms.org/ Social Programmes
- 3ie http://www.3ieimpact.org/
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