Methods for literature searching and critical appraisal

Beth Cullen, Epidemiologist

Infection Control Team

HAI & IC Section

This was the original method used for model infection control policy development 2005/2006
- Background to the project work
- Scientific approach to literature reviews
  - Purpose and key elements of a review
  - Setting and applying criteria
  - The Search
  - Synthesis of findings
  - Presentation of findings

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Background to the Project Work

- ‘A model policy is an example plan for action, written to a high standard, to guide those wishing to develop, refine, or compare their own policies with a view to encouraging standardisation of policy across Scotland’

- Standard Infection Control Precautions: 9 + 1 elements

- Guidance produced by other organisations
  - WHO
  - NICE
  - EPIC
  - HTA Programme
  - RCN
  - Previous working group

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Key Elements of Any Review

Defining the topic:
This limits search to key area, facilitates decisions and saves time

Setting the objectives:
These should be clearly defined as they will shape the review

Defining the search:
This needs to be sufficiently extensive to draw together all relevant papers. Sensitive yet specific.
Setting Inclusion/Selection Criteria

- **Study design:** which designs will be considered? RCTs? CBAs?
- **Sample:** who is your target group? males? females? healthcare workers?
- **Outcome measure:** what is being measured/assessed?
- **Other inclusion criteria**
- **Language limitations:** specify language of papers to be included

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Example Hand Hygiene Search Keywords

- hand$
- hygiene
- decontamination
- infection$
- nosocomial
- health
- care
- hospital
- acquired
- associated
- measure
- precaution
- control
- bacteri$
- microbial
- spread

Other keywords added for specific elements (e.g. nail$, jewellery)

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Search Methods

- Search published and unpublished (grey) literature obtainable from electronic databases
- Search other unpublished literature (e.g. personal libraries, conference proceedings)
- Scan citations of included articles
- Handsearch journals (check register of trials)
- Contact experts in the field

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Current Awareness Searches

... The Steps

Step 1: Enter key search terms identified into relevant databases (e.g. Medline, CINAHL, Embase)

Step 2: Save search strategy and set up Auto Alert

What is an Auto Alert?
Mechanism for flagging up any new publications which meet your criteria

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Applying the Criteria

- **Study evaluation**: scanning abstracts allows quick assessment of their relevance

- **Quality assessment**: critical appraisal of studies considering their strengths/weaknesses

- **Data evaluation**: consider validity, replicability, analyses performed etc.
Critical Appraisal of Studies

Key criteria, for research studies and other literature

e.g. clarification of sampling strategy
recruitment
allocation to treatment
validation of measures
precision of analysis

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Final Stage of Review Process

Synthesis of findings:
- summarise and discuss results, in light of critical appraisal
- produce considered, balanced review of evidence
- for systematic reviews, apply meta-analysis of statistical results if applicable
Completion of Template

- Conclusions
- Recommendations
- Practical Application
- Resource Implications
- Review Status

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Thank you for your attention

Any questions?

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