

Literature Review and Critical Appraisal

Dr. Jan Gartlan MBBS (Hons) FRACGP

Discipline of General Practice
University of Tasmania



How I got involved in research

- RACGP newsletter – Registrar Research Officer articles
- Began casual medical student teaching
- DGP research day for GP's October 2001
- GP registrar research workshop in Cairns in May 2002
- FRACGP Fellowship January 2003
- Involved in data collection in COPD Pilot study with DGP
- Applied for current position – solid grounding in research skills

Doing a literature review is like solving a mystery.





The Mystery:

An account of what has been published on a topic by other researchers

It forms the background to a research article.

To convey what knowledge and ideas has been established on a topic and what their strengths and weaknesses are.



Why solve the mystery: why do a lit. review

1. Identify similar research to our own and avoid duplication
2. Learn about methods used in similar studies
3. To find relevant data sources and references
4. To identify other researchers in your field of interest
5. To place our study in a historical context
6. To justify your research



Steps to Solving the Case

Doing and writing a literature review

1. The Crime

This is your research question or problem.

Place your research question in the field with a quick literature search.

Redefine your research question.



2. Find the Evidence

Many sources:

- journal articles
- books
- e-journals
- conference proceedings
- government and corporate reports
- newspapers
- theses and dissertations
- internet, CD-ROM
- Clinical practice guidelines



3. Find the Clues

Electronic Databases (trace all the literature on a topic)

- Medline via PubMed
- Cochrane Collaboration
- Medline via Proquest
- Web of Science
- CINAHL



RACGP National Resource Centre

- www.racgp.org.au/resource/index.htm
- Free if RACGP member
- Vast collection of GP material available for loan around Australia
- They will photocopy or email articles to you for free



Medical Journals

- brief check in last few years may help you find answers
- peer-reviewed are the best

Eg. AFP, Family Practice, British Journal of General Practice, Medicine Today, Primary Care

- evidence-based journals: ACP Journal, Evidence-based Medicine



Forensic investigating tools

What you need to search for database clues:

- computer with online access
- know the database jargon
- think about a topic from different angles



Learn the street-talk in PubMed:

MeSH Terms (medical subject heading)

Different medical words denote the same subject (eg. renal/kidney/nephrology)

Medline has tried to group terms under standard subject headings.

You can use MeSH browser to search for a particular term or concept.



Meeting the Bullies:

Boolean Operators

These are intersecting words such as AND, OR, NOT which help refine a search more.

AND – narrows the search and improves specificity (eg. Asthma AND treatment)

OR - includes more and more articles and improves the sensitivity of a search

NOT - excludes studies with the specified words or phrases



4. The Suspects:

What do you do with the articles you have collected?

This is where the suspect line-up comes in.
(or critical appraisal)

A literature review is not a summary of all published work that relates to your research.

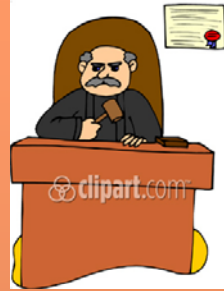
It is a survey of the most relevant and significant work.



Critical Appraisal:

Evaluating the worthiness of a piece of research.

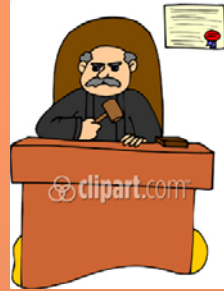
They are a series of questions you ask yourself as you read a journal article.



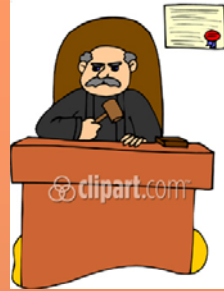
5. Preparing the Case

Writing the literature review

- What do we already know from the literature
- Show why your research needs to be carried out
- How your work adds to research done
- Look for relationships and major concepts between articles



- What views need to be further tested
- What evidence is lacking, contradictory or too limited
- What contribution this study can make
- What research designs/methods are unsatisfactory



Tips:

- Read other literature reviews
- Don't read everything!
- Be organised and directly related to your research question
- Summarise results of previous research
- Don't leave writing until the end
- Keep bibliographic info



A successful conviction:

Getting your results out there

- Writing an article
- Letting the research practice know what the results were
- Presenting results at conference (oral or poster)
- Presenting at meetings