

Identifying Research Ideas and
Developing your Research Project

**RHSRNBC Research Skill Building
Workshop
Castlegar, June 1, 2012**

Welcome and Introductions

- Where do you live?
- What is your healthcare background?
- What is your research background?
- What is your area of interest related to research?
- What do you hope to accomplish by the end of the day?

What we hope to accomplish this
morning...

- Recognize and refine a problem.
- Develop a “researchable” question from your problem.
- Understand a study framework.
- Conduct a review of the literature.
- Recognize the different research approaches.
- Share our experiences with developing a joint research project.

Be Prepared

- If you learned in school that research is linear
- Hmmmmm... NOT
- The process is iterative, two steps forward, one step back to refine and think again.

Where do problems come from?

- Society
- Practice
- Literature
- Funding Sources
 - <http://www.cihr-irsc.gc.ca/e/43567.html>
- A supervisor or colleague

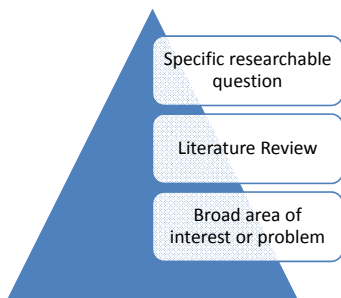
What makes a “good” problem

- Recognized as significant by a broad group of stakeholders.
- Balanced and thoughtful in approach (as opposed to the sky is falling approach).
- Has someone who might be interested in paying for your work to answer the problem.

The Problem Statement

- A single concise statement that is understood by any reasonably intelligent person.
- Better yet...
- A 20 second sound bite that would captivate at parties.
- It's disturbing, it's a dilemma, it's significant, it's a PROBLEM!!

Process of Refining a Question



Good Question

- Clear
- Researchable
- Based directly upon problem or need
- Linked to existing knowledge
- Appropriate scope
- Capable of sustaining your interest
- Includes parameters (e.g., population and context).

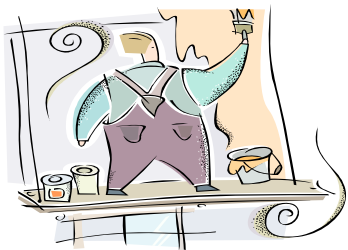
Next Steps in the Research Process

- Purpose
- Aims
- Objectives
- “Hypotheses” if appropriate.

Defining your variables.

- Conceptual definitions: Textual descriptions of concept (e.g., how would you define “rural?”).
- Operational Definitions: Putting numbers to the concept (e.g. what measurements might you use to determine if a town was rural?). This might include a measurement instrument.

What is a Research Framework?



Research Frameworks

- Provides the logic behind what you plan to study.
- Various names: theoretical framework, conceptual framework, theory, model etc.
- Could be a formal model (e.g., Pender Health Promotion Model) a map or a diagram of relationships.
- Quantitative research built form a model; Qualitative research often builds a model.
- You might draw upon something established or create it yourself.
- May be implicit in your study – not always used for funding agencies unless you are trying to facilitate understanding of a complex process.

Model of Rural Capacity Building in End of Life Care

- **Developing Rural Communities' Capacity for Palliative Care: a Conceptual Model**
- Mary Lou Kelley. *Journal of Palliative Care; Autumn 2007; 23, 3; CBCA Reference and Current Events.* pg. 143

Being Realistic: What is the purpose of your review?

- Thesis
- Grant Writing
- Clinical Guidelines
- Narrative Review for Publication
- Systematic Review for Publication

What will change?

- Number of data bases searched
- Search strategy – more or less terms
- Forward citation searches – checking who has referenced your key papers
- Backward citation searches – checking reference lists
- Manual searches – most important journals in your topic of interest
- Grey Literature – policy documents, web-sites
- Rigor of method - reliability checks, specific inclusion/exclusion criteria, article coding

Key Rules

- Be systematic: Have a method
- Be transparent: Share the method

Example from a Rural Palliative Care Review

Computer searches were conducted on PubMed, ISI Web of Knowledge, PsycInfo, CINAHL, and Ageline using the search terms palliative care, hospice, terminal care, end-of-life care, end-of-life, and rural or remote. Reference lists were searched for other possible citations, as well as links for related articles within the databases. Studies published between 1996 and 2007 were included if they were written in English and contained empirical information on palliative care for a rural/remote population. Articles that included both urban and rural populations were included if they disaggregated data to provide specific information on rural contexts.

Robinson CA, Pesut B, Bottorff JL, Mowrey A, Broughton S, Fyles G: Rural palliative care: A comprehensive review. Journal of Palliative Medicine 2009, 12(3):253-258.

Steps in a Literature Review

1. Delineate the topic
2. Define key terms
3. Select databases
4. Construct a search strategy
5. Conduct the search
6. Retrieve relevant articles
7. Read and synthesize data

Delineate the Topic

- The only guarantee...your topic won't be easy to delineate 😊
- Often with clinical topics there are few studies to address your questions.



Define Key Terms

- Where can you find those terms?
 - Mesh or structured headings found in data bases (referred to as controlled vocabulary).
 - Key words supplied by articles with similar content
 - Words commonly used in titles
- Find terms for each major concept. For example if my topic is rural palliative nursing education my major concepts are “rural” “palliative” and “nursing education”.

Select Data Bases

- Common Data Bases
 - CINAHL
 - Medline / Pubmed
 - Embase
 - Psycinfo
 - Cochrane Reviews
- Two data bases are usually sufficient (e.g., CINAHL and Medline) but you may want to consider others depending upon your topic. In my experience there is not a great deal of overlap for most topics.

Construct a Search Strategy

- Decide whether you are going to use “controlled” vocabulary and a “field” search.
- Always do “controlled” vocabulary. You may choose to extend the search to a field search, particularly if the topic is difficult to match to controlled vocabulary.
- The search strategy will need to be adapted to the data base as the controlled vocabulary changes.
- Broaden search using OR to combine synonyms (e.g. palliative OR end of life). Limit search using AND to get at literature that includes all your interests. Palliative OR end of life AND rural OR remote AND nursing education.

Conduct the Search

- You may need to modify your search to get a usable number of articles to review e.g., you may need to limit your synonyms.
- The bad news...You can expect to review hundreds of articles (if not - you have probably cast your net too shallow).
- The good news...You will be surprised at how quickly it goes.
- It is helpful to find a way to save your search so that you do not have to do it all in one sitting.

Retrieve Relevant Articles

- It is not uncommon to only identify a few articles that are directly relevant to your topic.
- Many data bases will have full text access but make sure that you have logged on to the site so that you can access the full text. For example, if you search Pubmed on the internet you will have little direct access. If you search Medline through library secure sites you will have access to the articles.

Try other search strategies

- Google (yes believe it or not).
- Reference list searching of your most relevant articles.

Collect Data from your articles

Reference	Purpose	Setting	Sample	Instruments	Findings

A Good Grant Literature Review

- Organized (general to specific)
- Concise
- Indirect referencing
- Active language
- Direct appeal with examples or stories
- Follows a line of argument with good transitions and foreshadowing (Remember the reviewers are often reading multiple grants).

Methods “Plenty of Fish” (But how do I choose?)



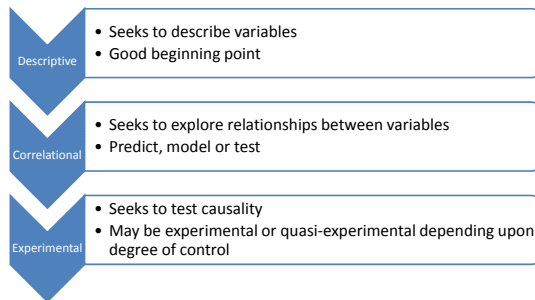
What’s in a Name?

- There are many schools of thought even within generally understood methods (particularly qualitative).
- Use a reference to show who you are drawing upon.
- Do not just use a label but describe specifically what you are going to do.
- Reviewers love help (without insulting their intelligence). It puts their mind at ease that you know what you are doing.

Qualitative Versus Quantitative

Qualitative	Quantitative
Primarily analyzes words	Primarily analyzes numbers
Naturalistic Interpretation	Acontextual description and explanation
Primarily uses inductive reasoning	Primarily uses deductive reasoning

Quantitative Research Methods



Qualitative Research

- Interpretive Description (Thorne). Good for a “practice” discipline
- Grounded Theory: Theory of social process
- Phenomenology: Meaning of an experience
- Ethnography: Cultural aspects
- Case Studies: Single in-depth focus
- Narrative: Analysis of text

Data Sources in Qualitative Research

- Interviews
- Focus Groups
- Document analysis
- Cultural artifacts
- Photo-voice
- Participant observation
- Field notes and reflective journals

Methods with Participation

- All of these methods link knowledge production to those who help to construct or will benefit from the knowledge
 - Participatory Action Research
 - Appreciative Inquiry
 - Community Based Health Research:

Critical Methods: Focus on oppression, power, freedom, beliefs, social justice



Mixed Methods

- Three key decisions to be made when you are considering mixed methods:
 - How much interaction will occur between the qualitative and quantitative methods?
 - What priority will you give to each method. Which will you emphasize more?
 - How will you time the two methods? (concurrent, sequential or multi-phase)

– Cresswell, J., Plano Clark, V.L. (2011). Designing and conducting mixed methods research. Sage: London.
