Defining the Health Research Question

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Objectives

Following this lecture, the participants will be able to

1. List the basic criteria in selecting the health related *research question*

2. Describe *methods* for developing the question

3. List potential *sources* for research questions

4. List the *categories* of clinical research design to answer the question
What are the Basic Criteria for a Good Research Question?
Basic Criteria: Good Research Question

1. Must be *possible to answer*

2. Must be *specific*

3. Must be of *interest/relevant* to you (and important to others)
Remember
A legitimate scientific study is **NOT** to prove that something is true but rather to find out **whether** it is true.
“...the scientific method must allow for the exercise of imaginative insight .....also place checks on the unconstrained use of the imagination”

.....must have a mechanism distinguish claims that can be substantiated from claims that cannot be substantiated

Need a “prepared/open mind”;
balance imagination and precision.

John Maindonald, Australian National University
Good Research Question Depends on .....

1. What you ask?
2. How you ask?
3. Where you look?

All influence what you find.... what it means.....
Where do community based research questions come from?

Finding local sustainable solutions for local problems
Sources of Community Focused Research Questions

Own work/practice

The community

Discussion with colleagues

Inspiration from reading (literature), meetings

Culture of inquiry-Why? How best done? When? etc
What are the knowledge, practice and attitudes about blood donation in Kiruhura District in SW Uganda?

What are the causes of death in first week of life in rural Uganda?

What factors influence Hepatitis B vaccination uptake among healthcare students at Kenya Medical Training College, Kenya?

Can cell phone reminders improve the antenatal care attendance of pregnant women in Semi-urban of South Eastern Tanzania?
“Hourglass” of Research

Is the Question too broad? or too narrow?

Can the topic be researched?

Start broad general question(s)
Narrow down, focus
Operationalize
Observe
Analyze
Reach conclusions
Generalize
“PICOT”

If checking on an intervention or making a comparison:

P = PATIENTS or POPULATION
I = INTERVENTION
C = COMPARISON
O = OUTCOME
T = TIME

May help in your thinking about your question
Defining the Question -

What *kind* of a question are you asking?

What *methods* could you use to answer it?
Examples of Research Question Types

1. Describe **natural course**, prognosis or outcome of a health condition

2. **Cost effectiveness** or clinical **decision making analysis**: CHOosing Interventions that are Cost Effective (WHO-CHOICE) http://www.who.int/choice/en/

3. **Feasibility** of a new practice or emerging trend

4*. **Epi studies**: RCT, Cohort, case Control etc

5*. **Qualitative vs quantitative**
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<th><strong>Quantitative</strong></th>
<th><strong>Qualitative</strong></th>
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<tbody>
<tr>
<td><strong>Research Aims</strong></td>
<td><em>Test hypotheses</em> and establish cause and effect</td>
<td><em>Understand social phenomena</em> in their natural settings</td>
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<tr>
<td><strong>Study Design</strong></td>
<td><em>Formal, objective, and systematic</em></td>
<td><em>Observational, holistic, and flexible</em></td>
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<td><strong>Sampling</strong></td>
<td>Unbiased cross-section representative of the study population</td>
<td>Strategically selected to collect the most meaningful data</td>
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<td><strong>Methods</strong></td>
<td>Measurement yielding numeric data</td>
<td>Interviews and observations yielding textual data</td>
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<td><strong>Analysis</strong></td>
<td>Emphasis on statistical techniques to determine significance</td>
<td>Identify themes that emerge from the data</td>
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Brain Storm......

The problem: many head injuries in ER-
(rationale)

Goal: “How can these be decreased?”

The Question:
What, how, where, when, who ask.......

The research study design

Blair and Barton : Asking the right questions
http://www.sagepub.com/upm-data/59228_Walker.pdf
Next Steps.....

Literature...

Colleagues...

Observations...

Refine question
Many questions may pop up

- but which one do you have fire inside to answer?
“If I had an hour to solve a problem and my life depended on the solution, **I would spend the first 55 minutes determining the proper question to ask,** for once I know the proper question, I could solve the problem in less than five minutes.”

Albert Einstein
Potential Research Questions...

Relevant to health esp maternal child youth Community applicable

Interdisciplinary
• Write down your “burning” community focused maternal/child health research question.

• “Maternal/child health” can be understood broadly....... 

• List arguments for why your MicroResearch Team (will be formed tomorrow) should choose your question for the Team to move forward in proposal development.