Developing a Mini Grant Proposal

What ARE the components of a proposal?
Session Objectives

- Identify key elements of an applied epidemiology mini grant proposal
- Describe an NCD or RMH problem that is important to study in your country/region
- Apply scientific and background information to key elements of the mini grant proposal
Key Elements of a Mini Grant Proposal

1. Problem identification & definition
2. Justification of the project
3. Goals and objectives
4. Study questions/hypotheses
5. Study design
6. Methods
7. Analysis Plan
8. Plans for data interpretation
9. Plans to report study findings
10. Budget
11. Timeline
12. Appendices
Step 1
Problem Identification and Definition

- Identify the problem
  - What is the discrepancy between the actual and the desired situation?
  - Indicated alternative solutions/explanations for the discrepancy
Example – Problem Identification

What is the discrepancy between the actual and the desired situation?

- Too many women in Tanzania are dying of maternal mortality. Most of these deaths are avoidable if women with complications have access to appropriate and timely medical care at their antenatal and referral health facilities.

- Behavioral risk factors, such as smoking, diet, alcohol use, and stress, are known to be risk factors for many chronic diseases. We do not know the prevalence of these risk factors.
Example – Problem Identification

- Several different family planning methods have been distributed through rural clinics. The continuation rates for these methods vary substantially in the Region’s villages. Based on previous research, we would expect no variation in the continuation rates for the methods used in this region. Local health workers believe most of the variation is due to various side effects from the different methods. The MOH believes the variation is related to traditional beliefs associated with different forms of contraception. The real reason(s) for the variation should be determined.
Step 1 – cont’d
Problem Identification and Definition

- **Define the problem** – summarize your current research about the problem
  - Magnitude of the problem
  - Time frame
  - Geographic area
  - Population
  - Why?
Example – Problem Definition

Magnitude
Time frame
Geographic area
Population
Why?

- Worldwide, in 2005, 535,900 women died from causes related to pregnancy and childbirth; half of these deaths occurred in sub-Saharan Africa.
- Tanzania, located in sub-Saharan Africa, has an estimated maternal mortality ratio ranging from 578 to 950 per 100,000 live births.
- Causes of maternal death include hemorrhage, postpartum infection, hypertensive disorder, obstructed labor.
Step 2
Justification of the Project

Answer the following questions

- Is the problem current/timely?
- What are the consequences (life threatening?)?
- Does it affect large numbers of people?
- Does it have implications for current programs?
- What are anticipated implications of the study?
- Who is concerned about the problem?
- What is already known about this problem from the literature?

Organize your responses into a few concise paragraphs
Step 3
Goals and Objectives

- **Ultimate Goal**
  - Be clear
  - State this in terms of potential impact or public health purpose of your study
  - Broad social, economic, or health concerns
  - Change in policy, program or health behaviors
  - Populations that may be affected
Example – Ultimate Goal

What is the public health purpose of your study?

- By 2015, to decrease the maternal mortality ratio in Country X, from approximately 400 maternal deaths per 100,000 LB to 300 maternal deaths per 100,000 LB.

- By 2015, to decrease the prevalence of selected behavioral risk factors, including smoking, unhealthy diet, and alcohol use, among the population in Region Y.
Study Objectives

- What will be demonstrated, tested, evaluated, or compared?
  - **What** do you plan to do?
  - **Who** will do it? To whom?
  - **When** will it be done?
  - **Where** will it be done?
  - **What** do you hope to learn?
Example – Study Objectives

- What will you do
- Who will do it
- When will it be done
- Where will it be done

- **Surveillance System**
  The MOH will establish a surveillance system in District Y by the end of 2012 to monitor all pregnancy-related deaths among women aged 15-44 years.

- **Descriptive Study**
  The FETP program in Country X will conduct a descriptive study from June to December 2011 to determine the demographic and social characteristics of the women obtaining breast and cervical cancer screening at the university hospitals in Region Y.
Step 4
Study Questions or Hypotheses

- Make a formal statement of your study question to be investigated
- Be sure this is clear and specific
- This should flow from your problem identification (Step 1)
Example – Study Questions and Hypotheses

A formal statement of your study question to be investigated

- **Descriptive Epi**
  What are the levels of maternal and infant mortality in major cities of Country X?

- **Analytic Epi**
  The prevalence of hypertension is expected to be higher among males in the southern region of Province X as compared to males in the northern region
Step 5
Study Design

- Is your study descriptive or analytic?
  - Which design will best address your study problem?
    - Descriptive – provide accurate baseline data on prevalence of a characteristic/event related to the problem, and on the people who are affected
    - Analytic – to explain the relationship between 2 or more variables by testing hypotheses

- Once you’ve decided the purpose of your study, identify the best design to address your problem
  - Cross sectional
  - Cohort
  - Case Control
  - Experimental
Step 6
Methods

- **Describe the methods** you will use to select your subjects and collect the data
  - This is where you present step-by-step instructions for carrying out your study

- **Specify your study population**
  - Who will be in your study groups?
  - How will you select your subjects and controls?
    - Descriptive study population
    - Cohort exposed and unexposed
    - Case Control cases and controls
Step 6 – cont’d

Methods

- Describe the type of data you will collect
  - Cases, controls, & comparison groups
  - Give examples of some of your variables, including some operational definitions for key items

- Describe your data collection procedures
  - What is your data collection method (e.g., interview, observation, chart review, vital records)?
  - Include a copy of your data collection instrument, if available
  - How will you obtain consent of your participants?
  - How will you maintain confidentiality of your data?
**Example – Operational Definition**

Listing your variable “contraceptive use” may not be enough without a definition of what you mean.

- **Contraceptive Use**

  Current contraceptive use could be conceptually defined as any use of birth control by either the subject or her partner during the last month.

  Operationally, current contraceptive use could be defined as a subject indicating that she had used within a four-week period one of the contraceptive methods listed on an interview card. The list of methods could include tubal ligation; vasectomy; contraceptive pills; IUD; injection; condom; diaphragm; vaginal tablets; creams or jellies; rhythm; and withdrawal.
Step 6 – cont’d

Methods

- **Describe procedures to control the data quality**
  - How will you pretest the data collection instrument?
  - Describe any training of interviewers, supervisors, or abstractors
  - Describe your data quality checks to ensure you have all the forms, correct errors, etc.
  - Will you use multiple sources of information to check validity?

- **Describe partners you will collaborate with on your study**
  - This may include colleagues from the MOH, university, NGO’s, international organizations, etc.
Step 7
Analysis Plan

- This is closely related to the type of data you collect, but your plan for analysis will also influence how you collect the data.

- For the mini grant, provide a few Table Shells that will help you visualize how the data will be organized for analysis.
Step 8
Plans for Interpreting the Data

- Consider how your literature review and study design may affect how you interpret the results
  - Generalizability – indicate the populations to which you can generalize your results
  - Limitations – identify the weaknesses that exist within your study, and inform the reader how they affect your ability to generalize, or how they can be addressed in the future
  - Potential contributions – what are the merits of your study (timeliness, public policy implications, scientific knowledge or public health contribution)?
Step 9
Plans to Report Study Findings

- **How will you report your findings?**
  - Progress reports
  - Final report
  - Publications
  - Seminars/conferences
  - Discussions with policy makers

- **How will you communicate the results to your partners?**
  - What audiences will need to know your findings?
Step 10
Logistics

- This includes the resources, personnel, facilities, and budget needed for the study

- At this time we want to know your anticipated budget (at least the key themes)
  - What personnel are needed to conduct your study?
  - Give us a broad idea about the costs of each of the following components
    - Salaries
    - Supplies and Equipment
    - Travel
    - Miscellaneous costs
Step 11
Work Schedule or Timeline

- What are the steps and their sequence for the study process (as an outline!)

- A calendar to visually show the timeline is always helpful and appreciated
Step 12  
Appendices  

- This includes documents not included in the text of your proposal  

- Helpful appended documents include:  
  - Curriculum vitae of principal investigators  
  - Sample of data collection instrument  
  - Informed consent form  
  - Letters of endorsement of the study  
  - Other information that relates to the study  

- Tell us what you plan to include
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Thank you

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