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Introduction to Research

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Introductions

- Name
- Why OBGYN?
- Where did you grow up?
- Where is the favorite place you have traveled to?

Topic Covered This Week

- Conceptualization of Research Topics and Formulation of Specific Aims
- Ethics in Global Health Research
- Study Design

Topics Covered Today

- Importance of Clinical Research
- Conceptualization of Research Topics
- Generation of Research Questions

Workshop Goals

1) Provide an overview of key issues :

- Conceptualization
- Formation
- Study implementation
- Ethics and IRBs

Workshop Goals – 2

- 2) Clarify first steps in initiating projects
- 3) Assist participants in identifying general research themes vs. issues specific clinical research / practice

Orientation

- What will not be covered today
 - Detailed research methodology
 - Sampling strategies
 - Statistical analysis
 - How to write a research proposal
 - Manuscript publication

Role of clinical research

- Research can:
 - Identify issues unique to clinical settings
 - Illustrate causal pathways
 - Suggest direction for intervention
 - Inform policy
 - Build capacity
 - Create community of peers



Image by [US Army Africa](#)

Why Research Matters

Improves understanding of health and illness:
Knowledge base generated from years of
basic and clinical research

Determines which interventions work : Ensures
best use of limited resources

**Bridges gap between academics and policy
makers:** Translates findings into practice

Types of health research

- Lab-based/basic sciences
- Clinical
- Public Health
- Health Services Research
- Implementation Science



Image by [US Army Africa](#)

Getting started: Overview of the research process

- **Conceptualizing the idea**
– what is the question?
- **Study site ?**
- **What is known on the subject? >> reading**
- **Refining & writing down the idea – specific aims, concept note**

Taking a closer look...



Image by [Images_of_Money](#)

Conceptualizing Research Topics

- **Finding your focus:**
 - **Which aspects of your discipline interest you most?**
 - **What have you observed that you have questions about?**
 - **What articles have you read that have raised questions in your mind?**

Conceptualizing Research Topics

- **Broadly define the area of research**
- **Are not the same as the title of your research study**
- **Need further work to become feasible research projects**

Research Topics -> Research Qs

- **Research Topics need narrowing to become feasible projects**

E.g.

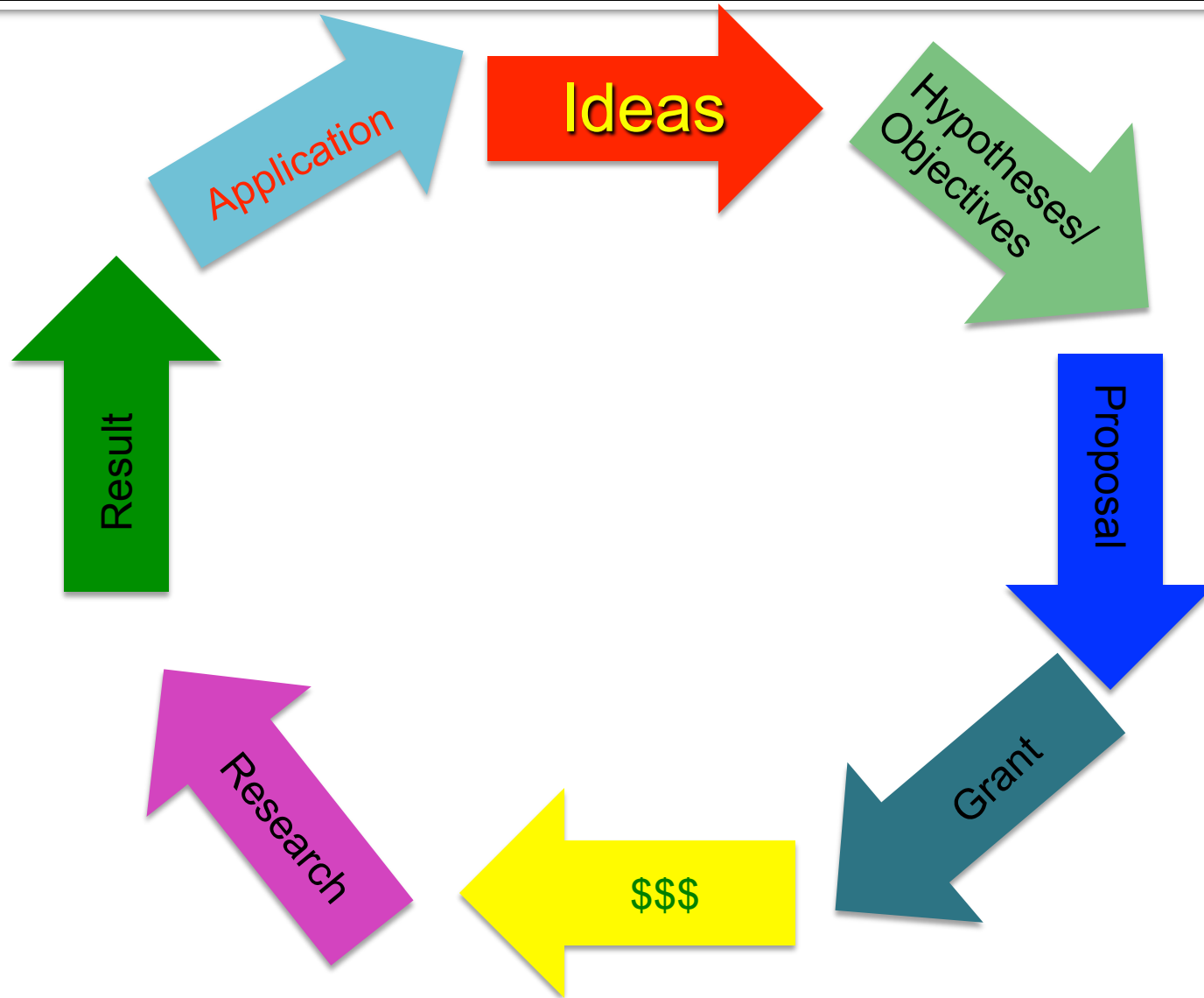
TOPIC: Facility-based deliveries in Ethiopia

RQ: What are the factors that prevent pregnant women from delivering in health care facilities in Ethiopia?

Conceptualizing Research Topics

- **Where are the gaps in the literature?**
 - **By topic (what is not being looked at?)**
 - **Methods (what is not being done?)**
 - **Populations (who is not being studied?)**
 - **Comparisons (who is not being compared?)**

Asking the Right Question



Finding a great idea

- The 3 Cs:
 - **Curiosity** to investigate and question situations
 - **Critical thinking skills** to refine your curiosity into a clearly stated idea
 - **Courage** to have “bad ideas”

Conceptualizing Research Topics

- **sources of literature**
 - **Published manuscripts**
 - **Abstracts**
 - **Conference proceedings**
 - **Expert consultations**

Where to start?

- **Read, read, read**
- **Detailed literature searches**
- **Attend seminars, conferences and presentations**
- **Discuss subject area with peers and seniors**
- **Listen**
- **Ask questions**

Refining research topics

- Discuss with fellow researchers
- Discuss with stakeholders
- Assess what is most critical to learn
- Assess research resources available
- “The Ideal” may not be realistic

Questions to Ask Yourself

Is this a good idea?

1. Has it been done?
2. Who cares?/ So what?
3. Can it be addressed using appropriate research methods?
4. Will it stimulate interest by others

Research Questions

Examples?

Each Study is Only One Piece of the Puzzle



Image by [jhritz](#)

Specific Aims

- The Overall Objective is the main question that the researcher seeks to answer
- There may be three to five Specific Aims underneath that overall objective, driven by Hypotheses
- Within the specific aims may be Study Objectives, or exactly what you plan to do to achieve the broader aims

Writing Specific Aims/Objectives

- **KEEP THEM SIMPLE**
- **S -- specific**
- **I -- immediate (why do this project now?)**
- **M -- measurable (what data will you gather?)**
- **P -- practical (realistic/feasible?)**
- **L -- logical (build to achieving goal)**
- **E -- evaluable (significance, how assess impact?)**

Proposal Planning and Writing 2nd edition, Oryx Press, 1998

Refining Your Specific Aims

- **Are your aims descriptive vs. why? Fishing vs. hypothesis driven?**
- **Do the aims link to the central hypothesis?**
- **Is each aim tied to a working hypothesis?**
- **Is each aim needed?**
- **Is there a relative balance between specific aims with effort and anticipated outcomes?**
- **Does the ability to meet one aim depend on the outcome of another?**

Problems with Specific Aims and Significance

- **Problems with specific aims:**
 - Too ambitious, too much work proposed
 - Unfocused aims, unclear goals
 - Limited aims and uncertain future directions
- **Problems with significance:**
 - Not significant nor exciting nor new research
 - Lack of compelling rationale
 - Incremental and low impact research

Research Protocol

- Exactly WHO is going to do WHAT, WHEN, WHERE & HOW?
- On completing the study, WHAT data should be analyzed - analysis shells

Sections of a Protocol

- Hand out
- Objective
- Specific aims
- Background
- Study team expertise
- Methodology
- Data analysis plan