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How to Approach a Study: Concepts, Hypotheses, and Theoretical Frameworks

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The Problem

- A problem is observed
 - For example, older adolescents have the highest rates of untreated sexually transmitted disease
 - They use medical care less than any other group

Specifying the Problem

- Why do some adolescents obtain inadequate medical care?
- What system factors prevent adolescents from getting medical care?
- Does a system of school health clinics improve rate of treatment?

Developing a Conceptual Framework for the Problem

- First, some definitions
- Concept
- Construct variables
- Conceptual framework
- Theory/ hypothesis
- Model
- Variables

Concept

- The building blocks of theory
- An idea about the problem
 - Example—adolescents use less health care
 - This may contribute to their higher rate of sexually transmitted disease

Developing a Conceptual Framework: Summary

- The framework states the interrelationships among the variables in the model
- The framework informs the:
 - Study design
 - Sample selection
 - Data collection strategies
- The framework determines final interpretation of results

Conceptual Framework

Personal Factors

Adolescent demographics

Adolescent behavior

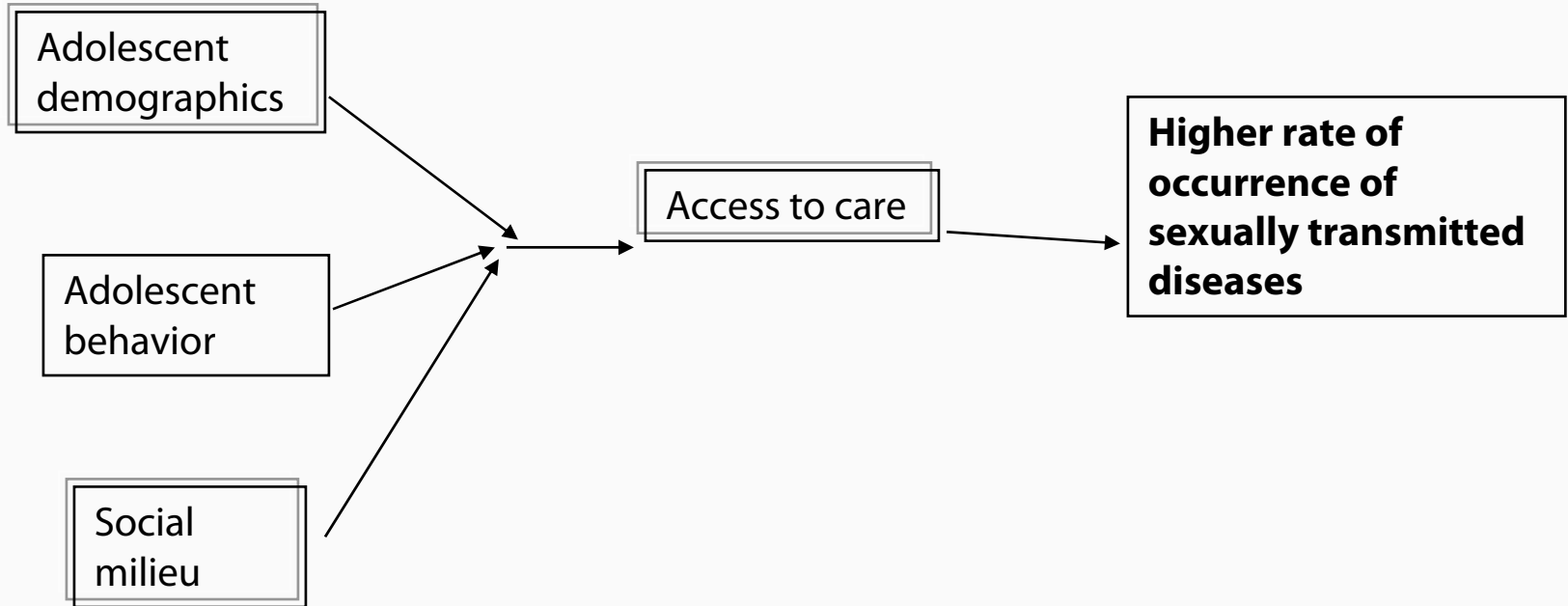
Social milieu

System Factors

Access to care

Outcome of Interest

Higher rate of occurrence of sexually transmitted diseases



- A theory is a system of concepts that are interrelated in ways that are clearly described
- A theory suggests the causal mechanisms that lead to specific outcomes
- A theory allows explanation and prediction of phenomena

- A formal statement of your theory
 - It should identify variables that are capable of observation
 - The relationship among the variables must be explained or predicted
 - The theory must be testable
 - Alternative hypotheses should be explored

Modeling Your Hypothesis

- Gives a visual picture so that the hypothesized relationships among variables can be seen
- Identifies all of the potential variables in your problem
- Has a dynamic aspect to it, showing direction of relationships

Variables

- These are the operational pieces that you believe are a part of the problem or that contribute to the conceptual framework
- It is important to specify all variables that may contribute to the problem
- You should be able to measure these variables or note the limits to your study

More on Variables

- Dependent (or outcome) variable
 - Your major interest in the study—what happens?
- Independent (or causal) variable
 - The program, intervention, or factor that you believe leads to the outcome
- Intervening (or modifying) variable
 - Doesn't "cause" the outcome but may modify it

Three Major Components

Independent

Intervening

Dependent

Three Major Components

Independent

The Program:
yes / no

Intervening

Age
Gender

Dependent

Has disease:
yes/ no

School Achievement

Other Intervening factors

Other Intervening Variables that May Modify Outcome

- Intervening
 - Sexual activity
 - Number of partners
 - Awareness of STD
 - Social network (peer pressure)
 - Access to clinic

School Health Clinic

- Does the student have easy and comfortable access to the school health clinic?
- *Intervening* *Dependent*
 - Geographic
 - Privacy
 - Hours of operation
 - Relationship with providers

Operationalize the Variables

- Define all variables in measurable terms
 - Sociodemographics will be straight forward
 - Attitudinal variables will be difficult to measure
 - Can't have too many missing values
- Choose accepted measurement instruments whenever available
- Select reliable and valid measures

Access to Medical Care Model

- Predisposing
 - Age/cognitive development
 - Male gender
 - Past experience with illness
 - Poor general health knowledge (about susceptibility, severity, treatments)
 - Family norms regarding medical help
 - Peer values regarding getting help from doctor/nurse

Enabling Variables

- Access to program
 - Geographic
- Cost
- Knowledge of program

Need for Care Variables

- Presence of disease
 - Severity
 - Discomfort
 - Awareness of disease
 - Complications of disease