Behavior Change Theories

March. 2012 E.C

Theories and models of behaviors

- **Health Belief Model**
- **Theory of Reasoned Action/Theory of Planned Behavior**
- **Trans-theoretical Model**
- **PRECEDE-PROCEED Model**
- **Social Learning Theory**

Theories and models of behavior change

Unit objectives

At the end of this chapter students are expected to:

- Define theory and model in health education.

- Explain the importance of theories and models in health education.

- Discuss the different theories and models of behavior change.

- Discuss the origins of the theories.

- Identify the key components of the HBM.

Introduction

- Why do some people change their health behavior and others don't?

- Researchers concerned with behavior change have long been interested in questions of how people seek, use and process information.

- Behavior theories attempt to explain why people act as they do.

- Information only is not enough. The benefits of behavior change must be compelling.

Cont'd….. Introduction

- HE and HP professionals are concerned about changes that can occur at the level of the individual, the organization, the community, or the government.

- Effective HE programs must be designed to insure participants are aware:
  - They need to change,
  - Of how they can change, and
  - Of what types of tools that might help them improve their health.

Cont'd….. Introduction

Question

- What is theory?

- What is the difference between theory and model?

- What is the importance of theories and models in health education?

What is theory?

Theory:

- Is a set of inter-related concepts, definitions and prepositions that describe, explain, predict, events or situations by illustrating the relationships between variables. **OR**

- Is "A systematic explanation for the observations that relate to a particular aspect of life.

- It is a general explanation of why people act or do not act to maintain and or promote the health of themselves, their families, organizations and communities.

Cont'd….. Theory

Concepts (preposition, definition)

- are the building blocks—the primary elements—of a theory. (generalized notion related to aspect of a phenomenon)
  - e.g. personalized risk motivate beneficial action

Constructs/ dimensions :

- are concepts developed or adopted for use in a particular theory. The **key concepts** of a given theory.

Variables (ensure empiricism):

- are the operational forms of constructs.

- They define the way a construct is to be measured in a specific situation.

Cont'd….. Theory

- Theories explain why, what, how, and when a particular behavior occurs.

    - **Describe-**the behavior (what)

    - **Explain-** the causes of behavior (why)

    - **Predict -** predict the behavior (when)

    - **Control/change -** then change the behavior (how)

Cont'd….. Theory

What are Models?

- A model is a subclass of a theory.

- Models draw from a number of theories to help people understand a *specific problem* in *a particular setting or context.*

Cont'd….. Theory

Importance of theories and models in HE & HP

1. It helps to guide the practice of health education at various Stages (planning, implementation, and evaluation)

2. It provides a platform for understanding why people engage in health risk or health compromising behaviors and how People adopt health protective behaviors.

3. Help to organize our thinking about a given health problem & human behaviors related to it.

4. Help to set priorities for health education interventions.

5. Prevent the planner from overlooking important factors.

Cont'd….. Theory

Note that:

✓Though not all health education/promotion programs are successful, those that are based on sound theories and models are more likely to succeed than those that are not.

An over view of the theories and models used in HE & HP

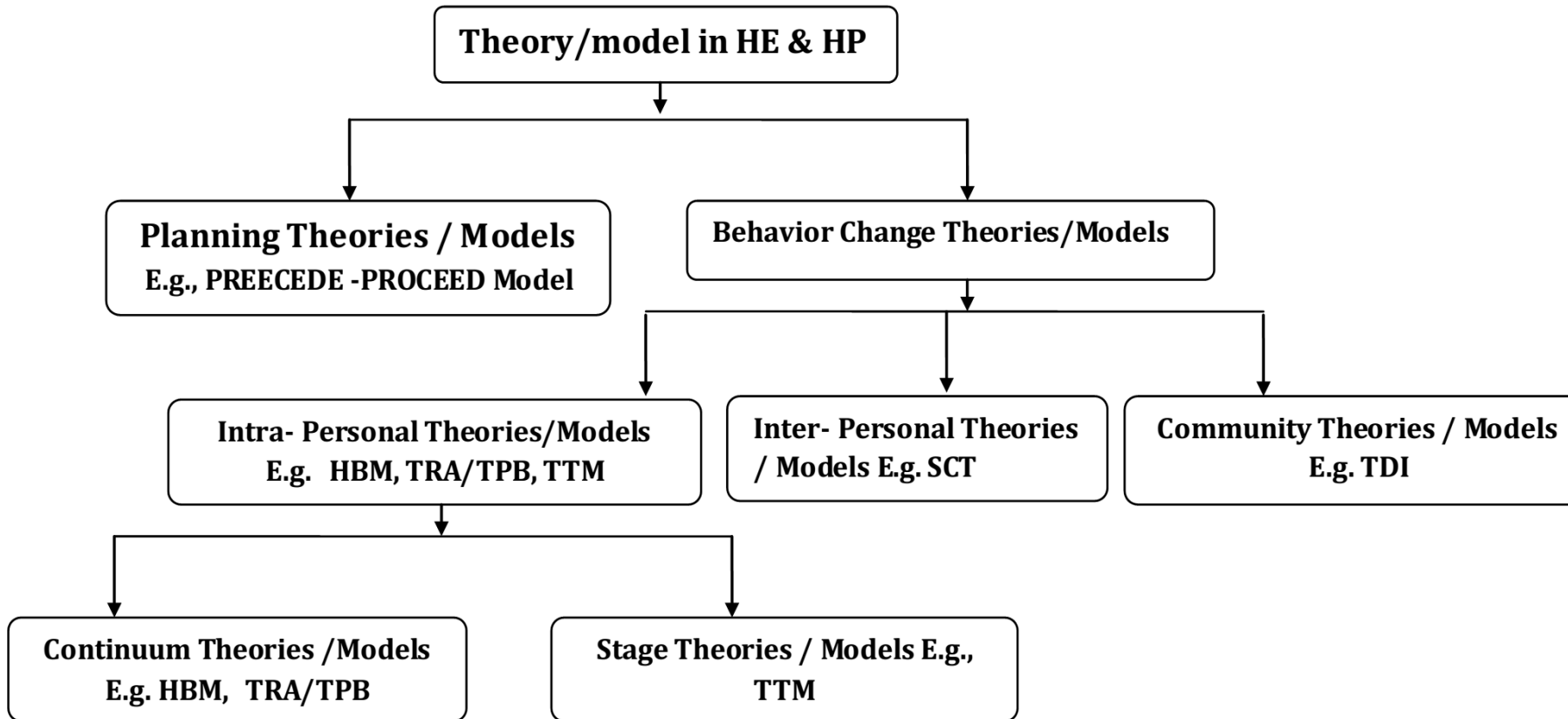**General classification of theories/ models in HE and HP**

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                    ┌─────────────────────┐
                    │ Theory/model in HE & HP │
                    └─────────────────────┘
                         │
        ┌────────────────┴────────────────┐
        ▼                                 ▼
┌──────────────────────┐      ┌────────────────────────────┐
│ Planning Theories /  │      │ Behavior Change Theories/   │
│ Models               │      │ Models                      │
│ E.g., PREECEDE       │      └────────────────────────────┘
│ -PROCEED Model       │
└──────────────────────┘
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Planning Theories / Models
E.g., PREECEDE -PROCEED Model

Behavior Change Theories/Models

Intra- Personal Theories/Models
E.g. HBM, TRA/TPB, TTM

Inter- Personal Theories / Models E.g. SCT

Community Theories / Models E.g. TDI

Continuum Theories /Models
E.g. HBM, TRA/TPB

Stage Theories / Models E.g., TTM

Figure: general classification theories and models in health education and promotion

Cont'd….. Overview

Generally, theories and models are categorized into two groups:

- Those used in planning, implementing and evaluating health education/ promotion program are **planning models.**
  - *E.g.* **PRECEDE-PROCEED** model

- Those theories and models that focus on behavior change referred to as **change process theories** or theories of behavioral changes.

Change Theories

Intrapersonal (individual) Theories

- Focus on factors within the individuals such as knowledge, attitude, beliefs, self concept, and mental history, past experience, motivation, skills, and behavior.
  - **E.g.**
    - **Health belief model (HBM)**
    - **Theory of reasoned action (TRA) and**
    - **Trans theoretical model (TTM)**

Cont'd….. Change ….

- Intra-individual theories/models can be further subdivided into ***continuum*** and ***stage*** theories.

- Continuum theory: is to identify variables that influence action (such as perception, attitude, beliefs) and to combine them is prediction equation.

  - **E.g. HBM, TRA,**

- Stage theories: it is the one that comprised of an ordered set of categories into which people can be classified and which identifies factors that could induce movement from one category to the next.

  - **E.g. TTM.**

Health Belief Model (HBM)

HBM

- Since the early 1950s, the HBM has been one of the most widely used conceptual frameworks in health behavior research,

  - Both to explain change and maintenance of health-related behaviors and

  - As a guiding framework for health behavior interventions.

- Over the past two decades, the HBM has been expanded, compared to other frameworks, and used to support interventions to change health behavior.

Cont'd ……. HBM

- The HBM was developed initially in the 1950s by social psychologists in the U.S. Public Health Service to explain the widespread failure of people to participate in programs to prevent and detect disease

    (Hochbaum, 1958; Rosenstock, 1960, 1974).

- Later, the model was extended to study people's responses to symptoms and their behaviors in response to a diagnosed illness, particularly adherence to medical regimens

    (Kirscht, 1974; Becker, 1974).

Cont'd ……. HBM

- During the early 1950s, academic social psychologists were developing an approach to understanding behavior that grew from learning theories derived from two major sources:

    - Stimulus Response (S-R) Theory (Watson, 1925) and

    - Cognitive Theory (Lewin, 1951; Tolman, 1932).

- S-R theorists believed that learning results from events (reinforcements), reduce physiological drives that activate behavior.

- Skinner (1938) formulated the widely accepted hypothesis that the frequency of a behavior is determined by its consequences or reinforcement.

- For Skinner, the mere temporal association between a behavior and an immediately following reward was regarded as **sufficient** to increase the probability that the behavior would be repeated.

- In this view, concepts such as reasoning or thinking are not required to explain behavior.

Cont'd ……. HBM

- Cognitive theorists, however, emphasize the role of subjective hypotheses and expectations held by individuals, believing that behavior is a function of

  - the subjective value of an outcome and

  - the subjective probability, or expectation, that a particular action will achieve that outcome.

- Such formulations are generally termed value - expectancy theories.

- Mental processes such as thinking, reasoning, hypothesizing, or expecting are critical components of all cognitive theories.

- Cognitive theorists believe that reinforcements operate by influencing expectations about the situation rather than by influencing behavior directly.

Cont'd ……. HBM

- When value-expectancy concepts were gradually reformulated in the context of health-related behaviors, it was assumed that individuals
    1) value avoiding illnesses/getting well and

    2) expect that a specific health action may prevent (or ameliorate) illness.

- The expectancy was further delineated in terms of the individual's estimates of:

    - Personal susceptibility to and perceived severity of an illness, and

    - The likelihood of being able to reduce that threat through personal action.

…HBM Hypothesis

- HBM hypothesizes that health related action depends on simultaneously occurrence of **_three classes_** of factors
  - Health concern that makes health issues salient (**health motivation**)

  - Perceived **threat** from health issue

  - Belief that a particular health **recommendation** would be beneficial in reducing the threat at subjectively acceptable cost

DESCRIPTION OF HBM AND KEY CONSTRUCTS

- The HBM contains several primary concepts that predict why people will take action to:

  - prevent, to screen for, or to control illness conditions; these include susceptibility, seriousness, benefits and barriers to a behavior, cues to action, and most recently, self-efficacy.

- Initially, Hochbaum (1958) studied perceptions about whether individuals believed they were susceptible to tuberculosis and their beliefs about the personal benefits of early detection.

- If individuals regard themselves as susceptible to a condition, believe that
  - Condition would have potentially serious consequences,

  - A course of action available to them would be beneficial in reducing either their susceptibility to or severity of the condition, and

  - The anticipated benefits of taking action outweigh the barriers to (or costs of) action,

- They are likely to take action that they believe will reduce their risks.

Constructs

- **Perceived Susceptibility.**
  - Perceived susceptibility refers to beliefs about the likelihood of getting a disease or condition.

- **Perceived Severity.**
  - Feelings about the seriousness of contracting an illness or of leaving it untreated include
    - Evaluations of both medical and clinical consequences (for example, death, disability, and pain) and

    - Possible social consequences (such as effects of the conditions on work, family life, and social relations).

- **Perceived Benefits**.
  - Even if a person perceives personal susceptibility to a serious health condition (perceived threat), whether this perception leads to behavior change will be influenced by the person's beliefs regarding perceived benefits of the various available actions for reducing the disease threat.

  - Other non-health-related perceptions, such as the financial savings related to behavior or pleasing a family member by having behavior, may also influence behavioral decisions.

  - Thus, individuals exhibiting optimal beliefs in susceptibility and severity are not expected to accept any recommended health action unless they also perceive the action as potentially beneficial by reducing the threat.

- **Perceived Barriers**.
  - The potential negative aspects of a particular health action — may act as impediments to undertaking recommended behaviors.

  - A kind of non-conscious, cost-benefit analysis occurs wherein individuals weigh the action's expected benefits with perceived barriers

  - Thus, "combined levels of susceptibility and severity provide the energy or force to act and the perception of benefits (minus barriers) provide a preferred path of action"

    (Rosenstock, 1974).

- **Cues to Action.**
  - Various early formulations of the HBM included the concept of cues that can trigger actions.

  - For example, thought that readiness to take action (perceived susceptibility and perceived benefits) could only be potentiated by other factors,

  - Particularly by cues to instigate action, such as bodily events, or by environmental events, such as media publicity.

    (Hochbaum, 1958)

- **Self-Efficacy.**
    - "The conviction/belief that one can successfully execute the behavior required to produce the outcomes"

      (Bandura, 1997).

    - Bandura distinguished self-efficacy expectations from outcome expectations (a person's estimate that a given behavior will lead to certain outcomes).

    - Outcome expectations are similar to but distinct from the HBM concept of perceived benefits.

    - Self-efficacy be added to the HBM as a separate construct.

      (Rosenstock, Strecher, and Becker 1988)

Key Constructs and Definitions of the HBM

Constructs	Definitions	Application
Perceived susceptibility	**Belief about the chances of experiencing a risk or getting a condition**	• **Define population(s) at risk, risk levels** • **Personalize risk based on a person's characteristics or behavior** • **Make perceived susceptibility more consistent with individual's actual risk**
Perceived severity	**Belief about how serious a condition and its sequelae are**	**Specify consequences of risks and conditions**
Perceived benefits	**Belief in efficacy of the advised action to reduce risk or seriousness of impact**	**Define action to take: how, where, when; clarify the positive effects to be expected**

# Key Constructs and Definitions of the HBM

Constructs	Definitions	Application
Perceived barriers	**Belief about the tangible and psychological costs of the advised action**	**Identify and reduce perceived barriers through reassurance, correction of misinformation, incentives, assistance**
Cues to action	**Strategies to activate "readiness"**	**Provide how-to information, promote awareness, use appropriate reminder systems**
Self efficacy	**Confidence in one's ability to take action**	•**Provide training and guidance in performing recommended action** •**Use progressive goal setting** •**Give verbal reinforcement** •**Demonstrate desired behaviors** •**Reduce anxiety**

- For behavior change to succeed, people must (as the original HBM theorizes)
  - feel threatened by their current behavioral patterns (perceived susceptibility and severity) and

  - believe that change of a specific kind will result in a valued outcome at an acceptable cost (perceived benefit).

  - They also must feel themselves competent (self-efficacious) to overcome perceived barriers to take action.

- Other Variables.
  - Diverse demographic, socio-psychological, and structural variables may influence perceptions and, thus, indirectly influence health-related behavior.

  - For example, sociodemographic factors, particularly educational attainment, are believed to have an indirect effect on behavior by influencing the perception of susceptibility, severity, benefits, and barriers.

Fig. Health Belief Model Components and Linkages
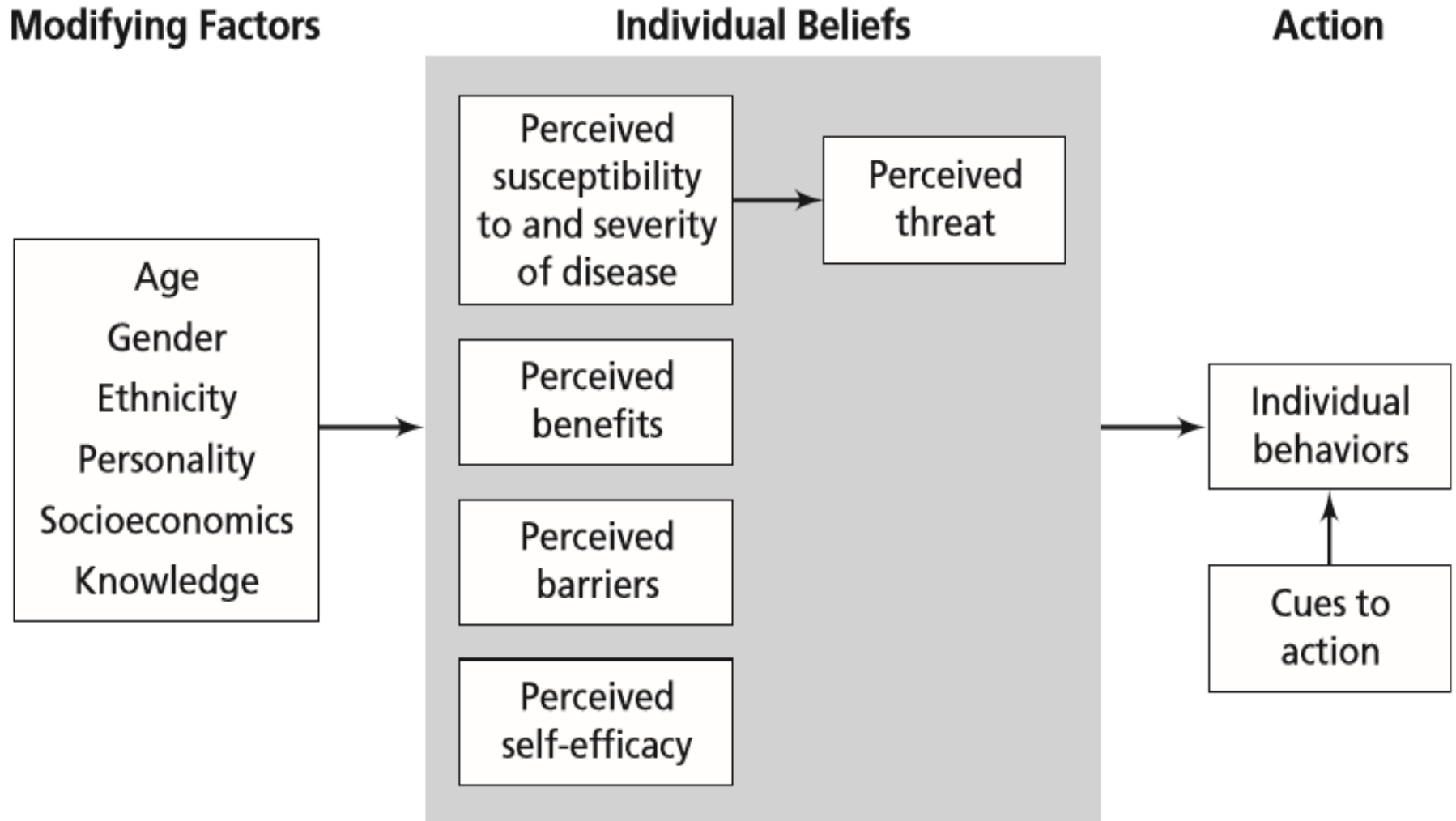
In short,

- **Threat of disease = perceived(susceptibility+ severity)**

- **Perception of behavior = perceived(benefit – barriers)**

- **Likelihood of action = perception of threat + perception of the behavior.**

  ✓ Thus, the likelihood of taking action is high when,
    ❖ the perceived threat of the disease is high and
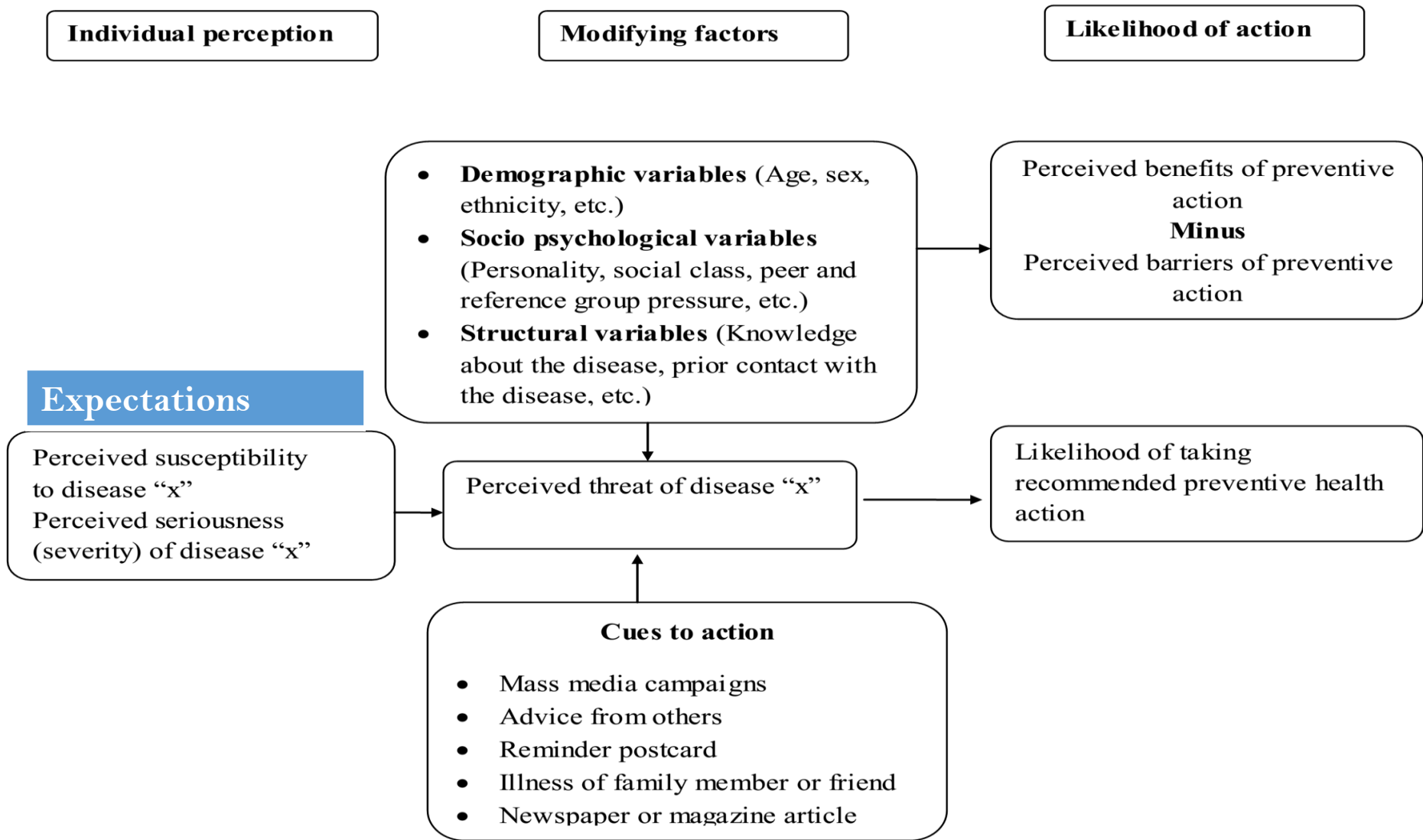   ❖ the benefits of the behavior out weight the barriers.

Individual perception	Modifying factors	Likelihood of action

- **Demographic variables** (Age, sex, ethnicity, etc.)
- **Socio psychological variables** (Personality, social class, peer and reference group pressure, etc.)
- **Structural variables** (Knowledge about the disease, prior contact with the disease, etc.)

Perceived benefits of preventive action
Minus
Perceived barriers of preventive action

Expectations

Perceived susceptibility to disease "x"
Perceived seriousness (severity) of disease "x"

Perceived threat of disease "x"

Likelihood of taking recommended preventive health action

Cues to action

- Mass media campaigns
- Advice from others
- Reminder postcard
- Illness of family member or friend
- Newspaper or magazine article

Figure 3.2: Health Belief Model as Predictor of Preventive Behavior.
Source: Randall R. Cottrell, James T. Girvan, James F. McKenzie, 2006

Nakachew M. (MPH)

Trans-theoretical Model/TTM

Nakachew M. (MPH)

KEY POINTS

- ## This chapter will
  - Explain the stages of change and the other core Trans-theoretical Model (TTM) constructs.

  - Explore empirical support for and challenges to TTM.

  - Examine how TTM interventions can be tailored to the needs of individuals while treating entire populations for smoking cessation.

  - Expand on how such TTM interventions can be applied to changing multiple health risk behaviors in high-risk populations.

TTM

- The Trans-theoretical Model (TTM) uses stages of change to integrate processes and principles of change across major theories of intervention, hence the name Trans-theoretical.

- The TTM emerged from a comparative analysis of leading theories of psychotherapy and behavior change in an effort to integrate a field that had fragmented into more than 300 theories of psychotherapy (Prochaska, 1984).

- The impetus for the model arose when Prochaska and colleagues conducted a comparative analysis of self-changers compared to smokers in professional treatments.

- These included consciousness raising from the Freudian tradition (Freud, 1959), contingency management from the Skinnerian tradition (Skinner, 1971), and helping relationships from the Rogerian tradition (Rogers, 1951).

- They revealed that behavior change unfolds/Explains through a series of stages (Prochaska and DiClemente, 1983).

CORE CONSTRUCTS

Constructs	Description
Stages of Change	
Precontemplation	No intention to take action within the next 6 months
Contemplation	Intends to take action within the next 6 months
Preparation	Intends to take action within the next 30 days and has taken some behavioral steps in this direction
Action	Changed overt behavior for less than 6 months
Maintenance	Changed overt behavior for more than 6 months
Termination	No temptation to relapse and 100% confidence

Constructs	Description
Consciousness raising	Finding and learning new facts, ideas, and tips that support the healthy behavior change
Dramatic relief	Experiencing the negative emotions (fear, anxiety, worry) that go along with unhealthy behavioral risks
Self-reevaluation	Realizing that the behavior change is an important part of one's identity as a person
Environmental reevaluation	Realizing the negative impact of the unhealthy behavior or the positive impact of the healthy behavior on one's proximal social and/or physical environment
Self-liberation	Making a firm commitment to change
Helping relationships	Seeking and using social support for the healthy behavior change
Counterconditioning	Substitution of healthier alternative behaviors and cognitions for the unhealthy behavior

Reinforcement management	Increasing the rewards for the positive behavior change and decreasing the rewards of the unhealthy behavior
Stimulus control	Removing reminders or cues to engage in the unhealthy behavior and adding cues or reminders to engage in the healthy behavior
Social liberation	Realizing that the social norms are changing in the direction of supporting the healthy behavior change
Decisional Balance	
Pros	Benefits of changing
Cons	Costs of changing
Self-Efficacy	
Confidence	Confidence that one can engage in the healthy behavior across different challenging situations
Temptation	Temptation to engage in the unhealthy behavior across different challenging situations

Stages of Change

- The TTM posits change as a process that unfolds over time, with progress through a series of six stages, although frequently not in a linear manner.

- Pre-contemplation: is the stage in which people do not intend to take action in the near term, usually measured as the next six months.

- **The outcome interval may vary, depending on the behavior.**

- People may be in this stage because they are uninformed or under-informed about the consequences of their behavior.

- Or they may have tried to change a number of times and become demoralized about their abilities to change.

- Both groups tend to avoid reading, talking, or thinking about their high-risk behaviors.

- They are often characterized as **resistant** or **unmotivated** clients or **as not ready** for therapy or health promotion programs.

- Contemplation, people intend to change their behaviors in the next six months.

- They are more aware than pre-contemplators of the pros of changing but are also acutely aware of the cons.

- **This balance between the costs and benefits of changing can produce profound ambivalence and keeps people stuck in contemplation for long periods of time.**

- This phenomenon is often characterized as chronic contemplation or behavioral procrastination/delay.

- These folks also are not ready for traditional action-oriented programs that expect participants to take action immediately.

- **Preparation**, people intend to take action soon, usually measured as the next month.

- Typically, they already have **taken** some significant step toward the behavior in the past year.

- They have a **plan of action**, such as joining a health education class, consulting a counselor, talking to their physician, buying a self-help book, or relying on a self-change approach.

- These are the people who should be recruited for action oriented programs, such as traditional smoking-cessation or weight-loss clinics.

- **Action**: People in the this stage have made specific, overt modifications in their lifestyles within the past six months.

- Because action is observable, behavior change often has been equated with action.

- Typically, not all modifications of behavior count as action in this model.

- In most applications, people have to attain a criterion that scientists and professionals agree is sufficient to reduce risks for disease.

- In smoking, for example, the field used to count reduction in number of cigarettes or switching to low tar and nicotine cigarettes as action.

- Now, the **consensus is clear—only total abstinence counts as action**, as these other changes do not necessarily lead to quitting and do not lower risks associated with the behavior to zero

- **Maintenance:** is the stage in which people have made specific, overt modifications in their lifestyles and are working to prevent relapse, but they do not apply change processes as frequently as people in action.

- They are **less tempted** to relapse and are increasingly more confident that they can continue their changes.

- Based on temptation and self-efficacy data, it was estimated that maintenance lasts from **six months to about five years.**

- **Termination**: People in this stage have zero temptation and **100** percent self-efficacy.

- Whether they are depressed, anxious, bored, lonely, angry, or stressed, they are sure they will not return to their old unhealthy behaviors.

- **It is as if they never acquired the behavior in the first place or their new behavior has become automatic.**

- **Examples** are adults who buckle their seatbelts as soon as they get in their cars or automatically take their antihypertensive medications at the same time and place each day.

- Study show that less than 20 percent of each group had reached the criterion of zero temptation and total self-efficacy

    (**Snow, Prochaska, and Rossi, 1992**).

- The criterion may be too strict, or this stage may be an ideal goal for the majority of people.

- Termination has received much less research attention than other stages.

Stages of Change Model

Precontemplation
Awareness of need to change

Contemplation
Increasing the Pros for Change and decreasing the Cons

Preparation
Commitment & Planning

Relapse and Recycling

Maintenance
Integrating Change into Lifestyle

Action
Implementing and Revising the Plan

Termination

Nakachew M. (MPH)
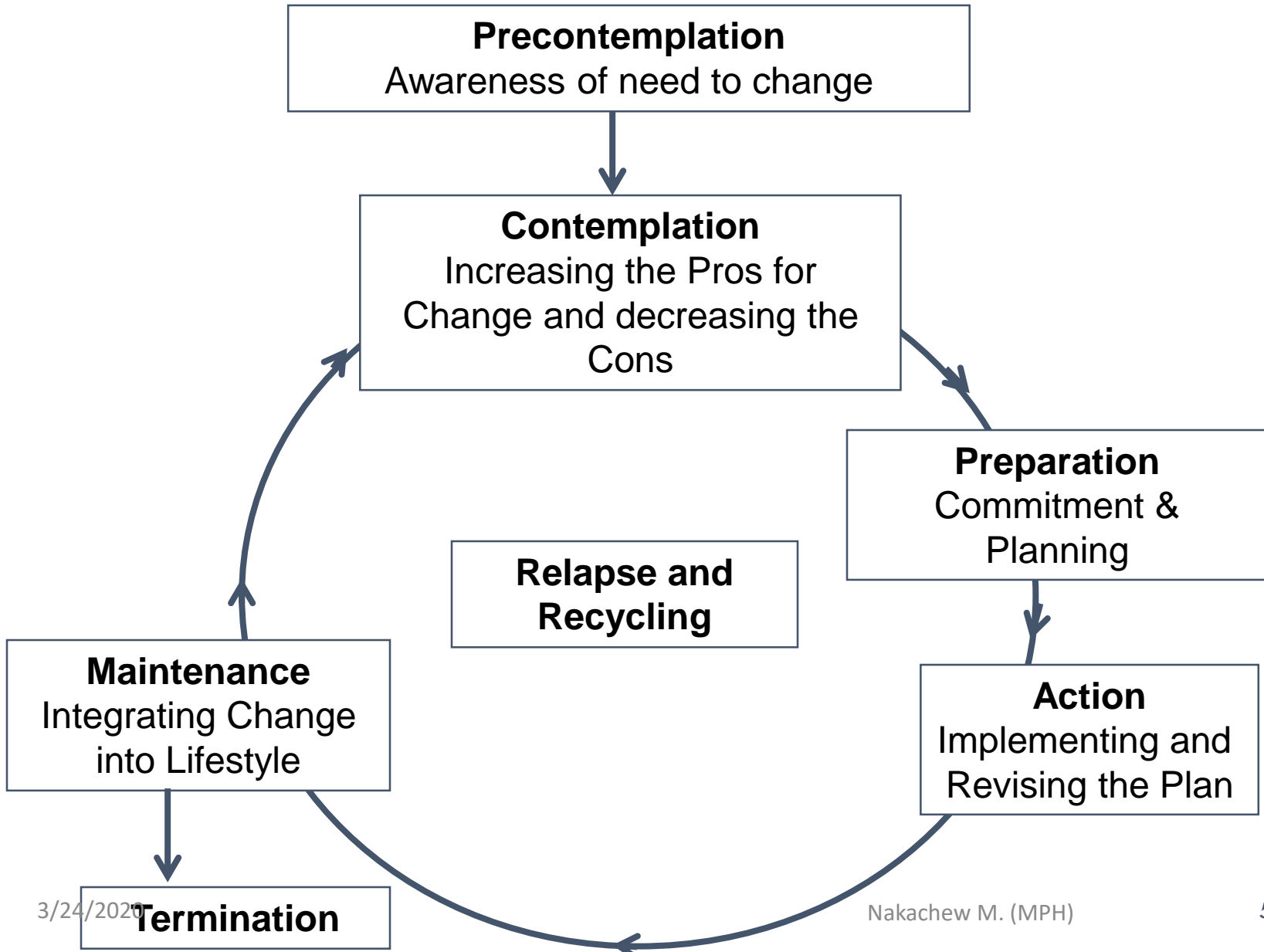
Processes of Change

- Processes of change are the covert and overt activities people use to progress through stages.

- Processes of change provide important guides for intervention programs, as processes are like independent variables that people need to apply to move from stage to stage.

- **Ten** processes have received the most empirical support in research to date

1. ***Consciousness raising*** involves increased awareness about the causes, consequences, and cures/ treatment/ therapies for a particular problem behavior.

  - Interventions that can increase awareness include feedback, confrontations, interpretations, and media campaigns.

2. ***Dramatic relief*** initially produces increased **emotional experiences**, followed by **reduced affect** or anticipated relief if appropriate action is taken.

  - Techniques that can move people emotionally
    - Role-playing, grieving, personal testimonies, health risk feedback, and media campaigns.

3. *Self-reevaluation*

- Combines both **cognitive** and **affective** assessments of one's self-image with and without an unhealthy behavior, such as one's image as a couch potato and an active person.

- Techniques that can move people evaluatively, **Values clarification, healthy role models,** and **imagery/descriptions**.

4. Environmental reevaluation

- Combines both affective and cognitive assessments of how the presence or absence of a **personal behavior** affects one's **social environment**, such as the impact of one's smoking on others.

- It can also include awareness that one can serve as a positive or negative role model for others.

- Empathy training, documentaries, testimonials, and family interventions can lead to such reassessments.

5. *Self-liberation*

- Is both
    - The **belief** that one can change and
    - The commitment and re-commitment to act on that belief.

    - New Year's resolutions, public testimonies, and multiple rather than single choices can enhance what the public calls willpower.

- *Social liberation* requires an increase in **social opportunities** or **alternatives**, especially for people who are relatively deprived or oppressed.

- Advocacy, empowerment procedures, and appropriate policies can produce increased opportunities for minority health promotion and health promotion for impoverished people.

- These same procedures can be used to help all people change, as is the case with smoke-free zones, salad bars in school lunchrooms, and easy access to condoms and other contraceptives.

7. *Counterconditioning*

- Requires learning healthier behaviors that can substitute for problem behaviors.

- **Strategies for safer substitutes**: relaxation, assertion, desensitization, nicotine replacement, and positive self-statements are.

8. *Stimulus control*

- Removes cues for unhealthy habits and adds prompts for healthier alternatives.

- **Avoidance, environmental re-engineering**, and **self-help groups** can provide stimuli that support change and reduce risks for relapse.

9. *Contingency management*

- Provides consequences for taking steps in a particular direction.

- Although contingency management can include the use of punishment, we found that self-changers rely on reward much more than punishment.

- Reinforcements are emphasized, since a philosophy of the stage model is to work in harmony with how people change naturally.

- **Procedures for increasing reinforcement** are contingency contracts, overt and covert reinforcements, incentives, and group recognition and

  - The probability that healthier responses will be repeated

10. *Helping relationships*
- Combine caring, trust, openness, and acceptance, as well as support for healthy behavior change.

- **Sources of social support can be**: Rapport building, therapeutic alliances, counselor calls, and buddy systems.

Decisional Balance

- Decisional balance reflects an individual's relative weighing of the **pros** and **cons** of changing.

- Originally, TTM relied on model of decision making that included four categories of **pros** (instrumental gains for self and others and approval from self and others) and four categories of **cons** (instrumental costs to self and others and disapproval from self and others).

(Janis and Mann's 1977)

- Over many studies attempting to produce this structure of eight factors, a much simpler two-factor structure was almost always found—pros and cons of changing.

Self-Efficacy

- Self-efficacy is the situation-specific confidence that people can cope with high-risk situations without relapsing to their former behaviors.

Temptation

- Temptation reflects the converse of self-efficacy—the intensity of urges to engage in a specific behavior when in difficult situations.

- Typically, three factors reflect most common types of temptations: **negative affect** or emotional distress, **positive social situations**, and **craving**.

Critical Assumptions

- The TTM has concentrated on **five** stages of change, **ten** processes of change, **pros and cons** of changing, **self-efficacy**, and **temptation**.

- It is also based on critical assumptions about the nature of behavior change and interventions that can best facilitate such change.

- The assumptions drive theory, research, and practice related to the TTM:

A. No single theory can account for all complexities of behavior change. A more comprehensive model is most likely to emerge from integration across major theories.

B. Behavior change is a process that unfolds over time through a sequence of stages.

C. Stages are both stable and open to change, just as chronic behavioral risk factors are stable and open to change.

D. The majority of at-risk populations are not prepared for action and will not be served effectively by traditional action-oriented behavior change programs.

E. Specific processes and principles of change should be emphasized at specific stages to maximize efficacy.

Stage Distribution.

- If interventions are to match needs of entire populations, we should know the stage distributions for specific high-risk behaviors.

Processes of Change Across Behaviors.

- One of the assumptions of TTM is that people can apply a common set of change processes across a broad range of behaviors.

- The higher-order measurement structure of the processes (experiential and behavioral) has been replicated across problem behaviors better than have specific processes (Rossi, 1992b).

- Typically, support has been found for the standard set of ten processes across the behaviors.

Relationships Between Stages and Processes of Change

- One of the earliest empirical integrations was the discovery of systematic relationships between people's stages and the processes they were applying.

- This integration suggests that, in early stages, people apply **cognitive, affective**, and **evaluative processes** to progress through stages.

- In later stages, people rely more on **commitments, conditioning, contingencies, environmental controls, and support** for progressing toward maintenance or termination.

Table presents the empirical integration (Prochaska, DiClemente, and Norcross, 1992).

Progression Between the Stages of Change.

	Precontemplation	Contemplation	Preparation	Action	Maintenance
Processes	Consciousness raising				
	Dramatic relief				
	Environmental reevaluation				
		Self-reevaluation			
			Self-liberation		
				Counterconditioning	
				Helping relationships	
				Reinforcement management	
				Stimulus control	

Note: Social liberation was omitted due to its unclear relationship to the stages.

Theory of Reasoned Action (TRA)/ Planned Behavior (TPB)

KEY POINTS

- This chapter will
  - Describe the historical development of the Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB).

  - Describe and explain the main constructs in the TRA, TPB, and IBM.

  - Explain the similarity between these theories' key constructs and constructs from other behavioral theories.

- The TRA and TPB focus on **theoretical constructs** concerned with individual **motivational factors** as determinants of the likelihood of performing a specific behavior.

- TRA and TPB both assume the best predictor of a behavior is **behavioral intention**, which in turn is determined by attitude toward the behavior and social normative perceptions regarding it.

Major assumption:

- *people are usually rational and make predictable use of the information available to them.*

- The theory states that ***intentions*** are the basis and the most ***immediate*** influences for the behavior to be adapted.

  - I.e. reasons behind the action determine the practice.

- TPB is an extension of the TRA and includes an additional construct: perceived control over performance of the behavior.

- In recent years, Fishbein and colleagues have further expanded TRA and TPB to include components from other major behavioral theories and have proposed use of an Integrated Behavioral Model (IBM).

- The TRA and TPB, which focus on the constructs of **attitude**, **subjective norm**, and **perceived control**, explain a large proportion of the variance in behavioral intention and predict a number of different behaviors, including health behaviors.

- TRA and TPB have been used successfully to **predict** and **explain** a wide range of health behaviors and intentions.

ORIGINS AND HISTORICAL DEVELOPMENT

- TRA was developed to better understand relationships between **attitudes**, **intentions**, and **behaviors**

(Fishbein, 1967)

- Fishbein and Ajzen (Ajzen and Fishbein,1980; Ajzen, 1991) clearly defined underlying beliefs (behavioral and normative), intentions, and behavior and their measurement.

- They have shown that it is critical to have a high degree of correspondence between measures of attitude, norm, perceived control, intention, and behavior in terms of action (go get), target (a mammogram), context (at the breast screening center), and time (in the next twelve months).

- A change in any of these factors results in a different behavior being explained.
  - Low correspondence between model construct measures on any of these factors will result in low correlations between TRA/TPB variables, while high correspondence will result in high correlations

    (Ajzen and Albarracin, 2007; Trafimow, 2007).

- Operationalization of TRA constructs was developed from a long history of attitude measurement theory rooted in the concept that:

  - An attitude (toward an object or an action) is determined by **expectations or beliefs** concerning attributes/qualities of the object or action and **evaluations** of those attributes.

THEORY OF REASONED ACTION AND THEORY OF PLANNED BEHAVIOR

- TRA asserts that the most important determinant of behavior is behavioral intention **(see unshaded boxes in Figure)**.

- Direct determinants of individuals' behavioral intention are their:
  - Attitude toward performing the behavior and

  - Subjective norm associated with the behavior.

- TPB adds perceived control over the behavior, taking into account situations where one may not have complete volitional control over a behavior **(see shaded boxes in Figure).**

TRA and TPB*
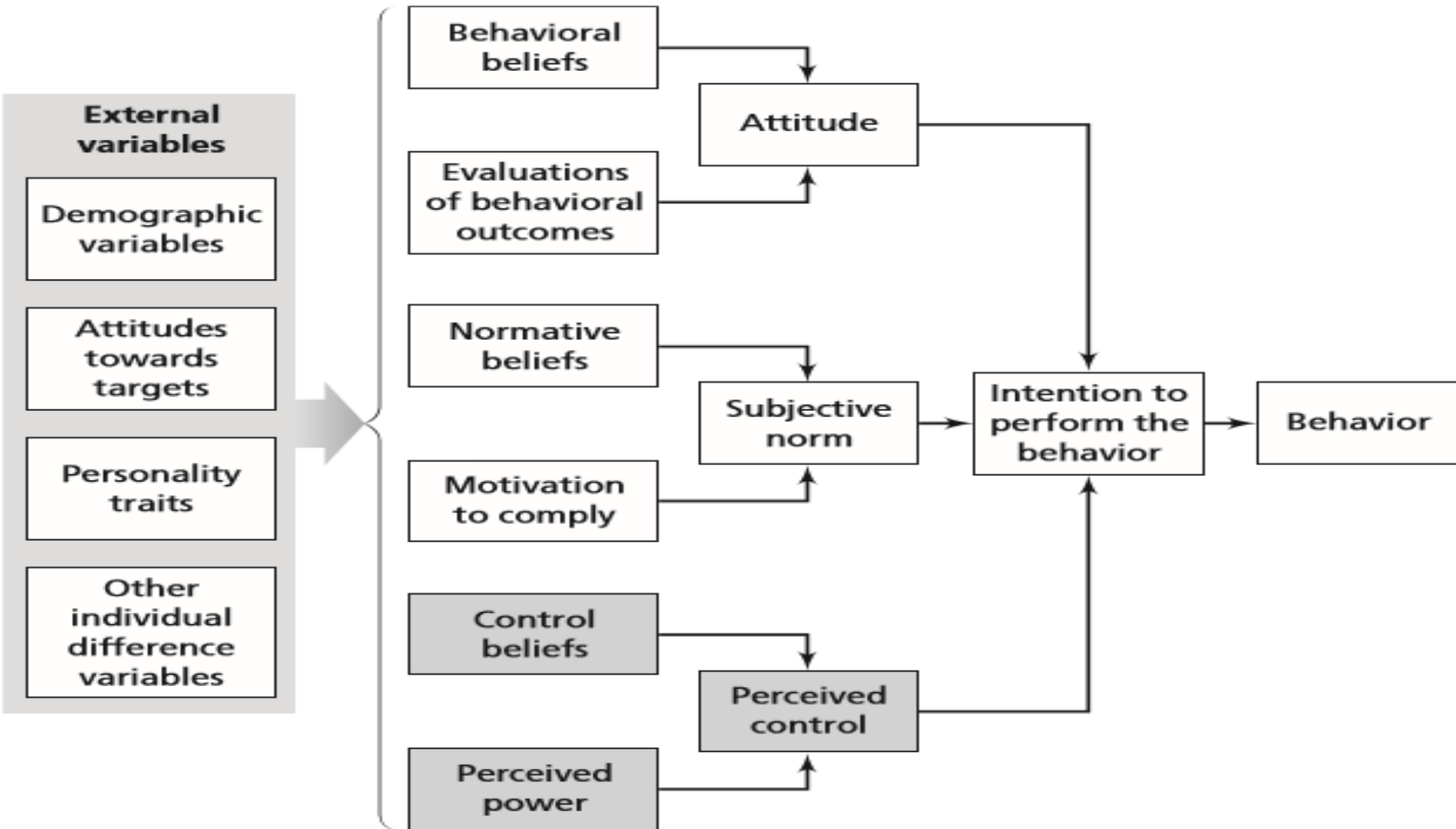
*Note: Upper light area shows the TRA; entire figure shows the TPB.

- Attitude is determined by the **individual's beliefs** about outcomes or attributes of performing the behavior (behavioral beliefs), weighted by **evaluations** of those outcomes or attributes.

- Thus, a person who holds **strong beliefs** that **positively valued** outcomes will result from performing the behavior will have a **positive attitude** toward the behavior.

- Conversely, a person who holds **strong beliefs** that negatively valued outcomes will result from the behavior will have a **negative attitude**.

- Similarly, a person's subjective norm is determined by his or her **normative beliefs**, that is, whether important referent individuals approve or disapprove of performing the behavior, weighted by his or her **motivation to comply** with those referents.

- A person who believes that certain referents think s/he should perform a behavior and is motivated to meet expectations of those referents will hold a positive subjective norm.

- Conversely, a person who believes these referents think s/he should not perform the behavior will have a negative subjective norm, and a person who is less motivated to comply with those referents will have a relatively neutral subjective norm.

- TRA assumes that the most important direct determinant of behavior is behavioral intention.

- Success of the theory in explaining behavior depends on the degree to which the behavior is under volitional control (that is, individuals can exercise a large degree of control over the behavior).

- It is not clear that the TRA components are sufficient to predict behaviors in which volitional control is reduced.

- Thus, Ajzen and colleagues 1986, 1991,) added *perceived behavioral control* to TRA to account for factors outside individual control that may affect intentions and behaviors.

- Perceived control is determined by **control beliefs** concerning the presence or absence of facilitators and barriers to behavioral performance, weighted by their **perceived power** or the impact of each control factor to facilitate or inhibit the behavior.

- Ajzen's inclusion of perceived control (Ajzen, 1991) was based in part on the idea that behavioral performance is determined jointly by **motivation (intention)** and ability (behavioral control).

- A person's perception of control over behavioral performance, together with intention, is expected to have a direct effect on behavior, particularly when perceived control is an accurate assessment of actual control over the behavior and when volitional control is not high.

- The effect of perceived control declines, and intention is a sufficient behavioral predictor in situations in which volitional control over the behavior is high

(Madden, Ellen, and Ajzen, 1992).

- Thus, similar to Triandis's (1980) conceptualization of facilitating conditions, perceived control is expected to moderate the effect of intention on behavior.

- TPB also postulates that **perceived control** is an independent determinant of behavioral intention, along with **attitude** toward the behavior and **subjective norm**.

- Holding attitude and subjective norm constant, a person's perception of the ease or difficulty of behavioral performance will affect his behavioral intention.

- TRA and TPB **assume** a causal chain that links behavioral beliefs, normative beliefs, and control beliefs to behavioral intentions and behaviors via attitudes, subjective norms, and perceived control.

- Hypothesized **causal relationships** among model components are clearly specified, and measurement and computation are delineated by Ajzen and Fishbein

  (Ajzen and Fishbein, 1980; Ajzen, 1991; Ajzen, 2006).

- This is one of the major strengths of the TRA/TPB approach.

- Other factors, including demographic and environmental characteristics, are assumed to operate through model constructs and do not independently contribute to explain the likelihood of performing a behavior.

TRA and TPB Constructs and Definitions.

Construct	Definition
Behavioral Intention	Perceived likelihood of performing the behavior
Attitude	Overall evaluation of the behavior
Behavioral belief	Belief that behavioral performance is associated with certain attributes or outcomes
Evaluation	Value attached to a behavioral outcome or attribute
Subjective (Injunctive) Norm	Belief about whether most people approve or disapprove of the behavior
Normative belief	Belief about whether each referent approves or disapproves of the behavior
Motivation to comply	Motivation to do what each referent thinks
Perceived Behavioral Control	Overall measure of perceived control over the behavior
Control belief	Perceived likelihood of occurrence of each facilitating or constraining condition
Perceived power	Perceived effect of each condition in making behavioral performance difficult or easy

Uses for and Evidence to Support TRA/TPB

- A fundamental assumption of TRA is that individuals are **"rational actors"** who process information and that underlying reasons determine motivation to perform a behavior.

- These reasons, made up of a person's behavioral, normative, and control beliefs, determine his attitudes, subjective norms, and perceived control, regardless of whether those beliefs are rational, logical, or correct by some objective standard.

- A strength of TRA/TPB is that they provide a framework to **discern/distinguish** those reasons and to decipher/interpret individuals' actions by identifying, measuring, and combining beliefs relevant to individuals or groups, allowing us to understand their own reasons that motivate the behavior of interest.

- TRA and TPB do not specify particular beliefs about behavioral outcomes, normative referents, or control beliefs that should be measured.

- Relevant behavioral outcomes, referents, and control beliefs will likely be different for different populations and behaviors.

- TRA and TPB provide a framework to identify key behavioral, normative, and control beliefs affecting behaviors.

- Interventions can then be designed to target and change these beliefs or the value placed on them, thereby affecting attitude, subjective norm, or perceived control and leading to changes in intentions and behaviors.

PIM and E of Health Education Programs

Learning objectives

At the end of this chapter students will be able to:

- Define planning
- Discuss the purposes of planning.
- List the principles of planning.
- Explain the steps of planning.
- Identify the different models used in health education planning.

Introduction

- Not only for health education programs but also in your day to day life you need a plan if you want to be successful.

- There is a saying "If you fail to plan, you are planning to fail".

- A plan is like a design of an engineer where by every structure and resources are estimated and the technical personnel easily read and put the paper design in to reality with monitoring, supervision and evaluation of the expert.

Introduction

- If you want to be successful; you need a plan, not only for HE programs but also in your day to day life.

  - "If you fail to plan, you are planning to fail".

- One of the most important reasons why many HE programs fails is that;

  - Health care professionals are not addressing HE based on appropriate planning procedure.

Pretest questions

- What is planning?
- What are the importance's of planning?

7.1. Concepts of planning

- **Planning**: – is an anticipatory decision making about:
  - what needs to be done,
  - how it has to be done, and
  - with what resources.

- It is central part to health education and health promotion process.

- **Purposes of planning**
  - A. Match resources with problem
  - B. Best use of scarce resources
  - C. Avoid duplication and wasteful expenditure
  - D. Helps for problem prioritization
  - E. Develop a best course of action

7.2. Principles of planning: – It should be:

1. Based on the conditions that exists
2. Based on careful analysis of the situations (research & technical information)
3. Relate to basic needs and interests of the people
4. Planned with the people who are involved in its implementation
5. Complete utilization of the existing resources.
6. Flexible enough to meet long time situation.
7. A device to promote the coordination of activities of different agencies
8. A continuous process.
9. Achievable considering (factors like finance, personnel, time etc.).
10. Utilized Trained personnel for preparing a plan.

7.3. Steps in planning health education intervention
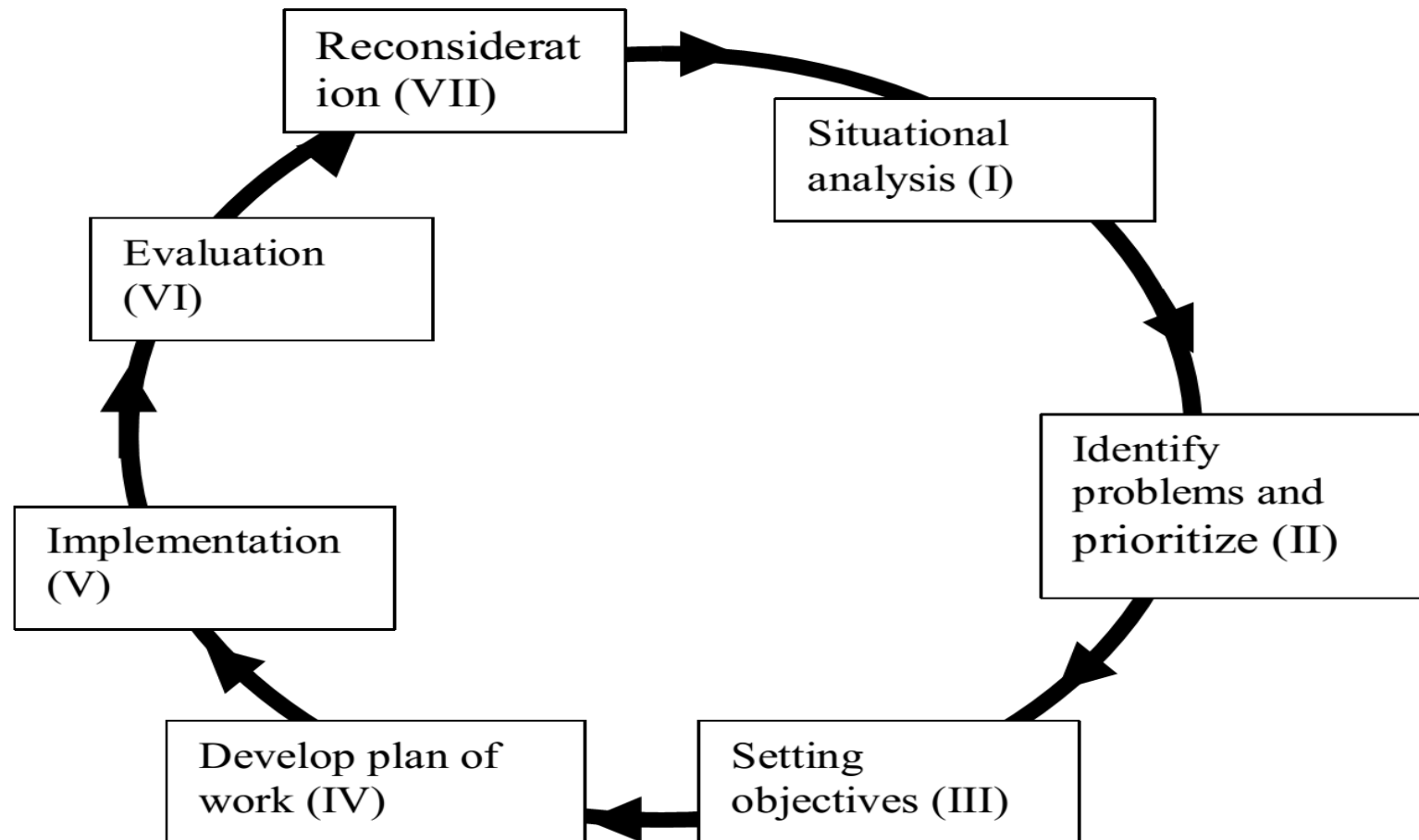
Figure 7.1: steps of planning health education intervention.

Step I. situational analysis

- Facts are the foundation stones upon which the community leaders and the planners build and carry out their programs.

- The local situation is the bench mark from where people should start the process of program planning.

- After assembling the facts pertaining to local situations, it is important to analyze these facts in such away that they will be useful to individuals or planners.

Health information to be collected may include:

❖Community and its topography

❖Demographic and socio-economic characteristics

❖Community groups and their impact on health care system.

❖Communication network

❖Family structure.

❖Political structure

❖Cultural practices and their impact on health

❖Health beliefs and practices

Community need assessment

- **Assessment: –** is the process of identifying and understanding a problem or set of problems and later planning a series of actions to deal with the problems.

- **Need: –** is a variety of felt urgencies related to the existence, continuation, and maintenance of life and the enhancement of living.

- Need assessment is necessary to determine the issues that are priority to the community, determine the purpose of the intervention, and it is a baseline for monitoring and evaluation.

Sources of information for needs assessment

- **Primary data**: can be collected through
    - Direct observation,
    - Semi-structured interview,
    - Focus group discussion,
    - Key informant interview etc

- **Secondary data:**
    - literature review of the health services at the national and district level.
        - For example, records, prior research studies, reports.

    - Secondary data should be collected first since it is:
        - useful for the formulation of questions,
        - identification of issues which require further investigation.

Step II. Identify problems and prioritize.

- What do we have at the end of needs assessment?

  - A number of problems are emerged out of needs assessment.

  - It is not possible or feasible to deal with all the problems at once,

    - Prioritize and evaluate them according to pre-defined criteria and

    - Select for action.

Prioritizing must be done based on pre-defined criteria:

1. Immediate necessity
2. Number of people benefiting
3. Severity of the problem
4. Community's capacity for self help and interest
5. Equity
6. Sustainability
7. Cost
8. Resource available
9. Local leadership available for the task

Step III setting objectives

- Once the problems have been prioritized, set objectives.

- Without a clearly stated objective, it is impossible to evaluate a course or a program efficiently.

- Objective should be:
  - measurable and attainable state that can be achieved within a foreseeable period with the resources available.

- A program objective must answer:
  - What do we want to achieve?
  - Where?
  - Who is the target group?
  - When do we want to achieve?
  - Extent of achievement?

- For example, to increase immunization coverage from 60% to 90% among under 5 children in village "X" within the project period or by 2007.
    - **What**: Increase immunization coverage
    - **Where**: In village "X"
    - **Who:** Among under 5 year children
    - **When**: Within the project period/by 2007
    - **Exten**t: From 60% to 90%

A specific objective should be **SMART:**
    - **S** -Specific, simple
    - **M** -Measurable
    - **A** – achievable
    - **R** -realistic/relevant
    - **T** - Time bound

- Words open to many interpretations should not be used while writing an objective.

  - For example, know, understand, appreciate, enjoy, believe etc,

- Words open to less interpretation should be used

  - e.g., identify, list, define, differentiate, compare etc.

Step IV. Develop plan of work

- A plan of work is a detailed schedule of activities to be done in a given period of time.
- It should specify:
  - the role of different persons involved,
  - the time in which the particular activities have to be carried out, and
  - the different methods to be used.

Principles of a good work plan.

- ✓ Clear objectives
- ✓ List of activities
- ✓ Specific priority tasks
- ✓ Time frame
- ✓ Clear indicators
- ✓ Specific resources to be utilized

- In short, an action plan should answers:
  - A. When should it start and when should it be completed?
  - B. Who does it?
  - C. Who is responsible for seeing it is actually carried out?
  - D. What materials and resources are needed?

7.4. Implementation of health education programs.

- Implementation is carrying out or putting the plan into action.

- It is translating the goals, objectives and methods into a community based health education programs.

Monitoring:

- is the process of assessing the progress of the health education activities in order to track that the activities are being performed according to the plan.

- Which enables the planners to:
  - detect any kind of problems related to the performance of the activities as early as possible and
  - give relevant solutions to the problems detected.

7.5. Evaluation:

- is the process of assessing whether the health education interventions are attaining their goals and objectives which are predetermined while planning the interventions.

Models for Program Planning in HP

- Many different kind of planning models have been developed to guide planning process

  PRECED-PROCEED…..
  MATCH *(multilevel Approach To Community Health)*

  MAPP (Mobilizing for Action Through Planning and Partnership)

  GMPP (Generalized Model for Program Planning)

- *Models* serve as frames from which to build; Provide structure & organization for the planning process

PRECEDE-PROCEED Model

- **T**he ***PRECEDE-PROCEED*** Model of health program planning and evaluation builds on more than 40 years of work by Dr. Lawrence W. Green and his colleagues.

- The goals of the model are to explain health-related behaviors and environments, and to design and evaluate the interventions needed to influence both the behaviors and the living conditions that influence them and their consequences.

- **PRECEDE-PROCEED** model provides a comprehensive structure for assessing
  - health and quality-of-life needs and for designing, implementing, and evaluating health promotion and other public health programs to meet those needs.

PRECEDE-PROCEED

- The PRECEDE-PROCEEDE model is a framework for the process of systematic development and evaluation of health education programs

- It is the well known and most frequently used model to plan, implement and evaluate health education and promotion programs.

PRECEDE-PROCEED

The model rests on two principles:

1. **The principle of participation**, which states that success in achieving change is enhanced by the active participation of members of the target audience.

2. The important **role of the environmental factors** as determinants of health and health behavior.

PRECEDE - PROCEED

✓Larry Green & Marshall Kreuter
✓PRECEDE created in early 1970s
✓PROCEED created in the 1980s
✓Best known & often used model

PRECEDE

P = Predisposing

R = Reinforcing

E = Enabling

C = Constructs

E=Educational

D = Diagnosis

E = Evaluation

PROCEED

P = Policy

R = Regulatory

O = Organizational

C = Constructs

E = Educational &

E =Environmental

D = Development

- **PRECEDE**

  - Outlines a diagnostic planning process to assist in the development of targeted and focused public health programs.

- **PROCEED**

  - Guides the implementation and evaluation of the programs designed using **PRECEDE**

PRECEDE-PROCEED MODEL Diagram

Green & Kreutzer, Health Promotion Planning, 3rd ed., 1999.
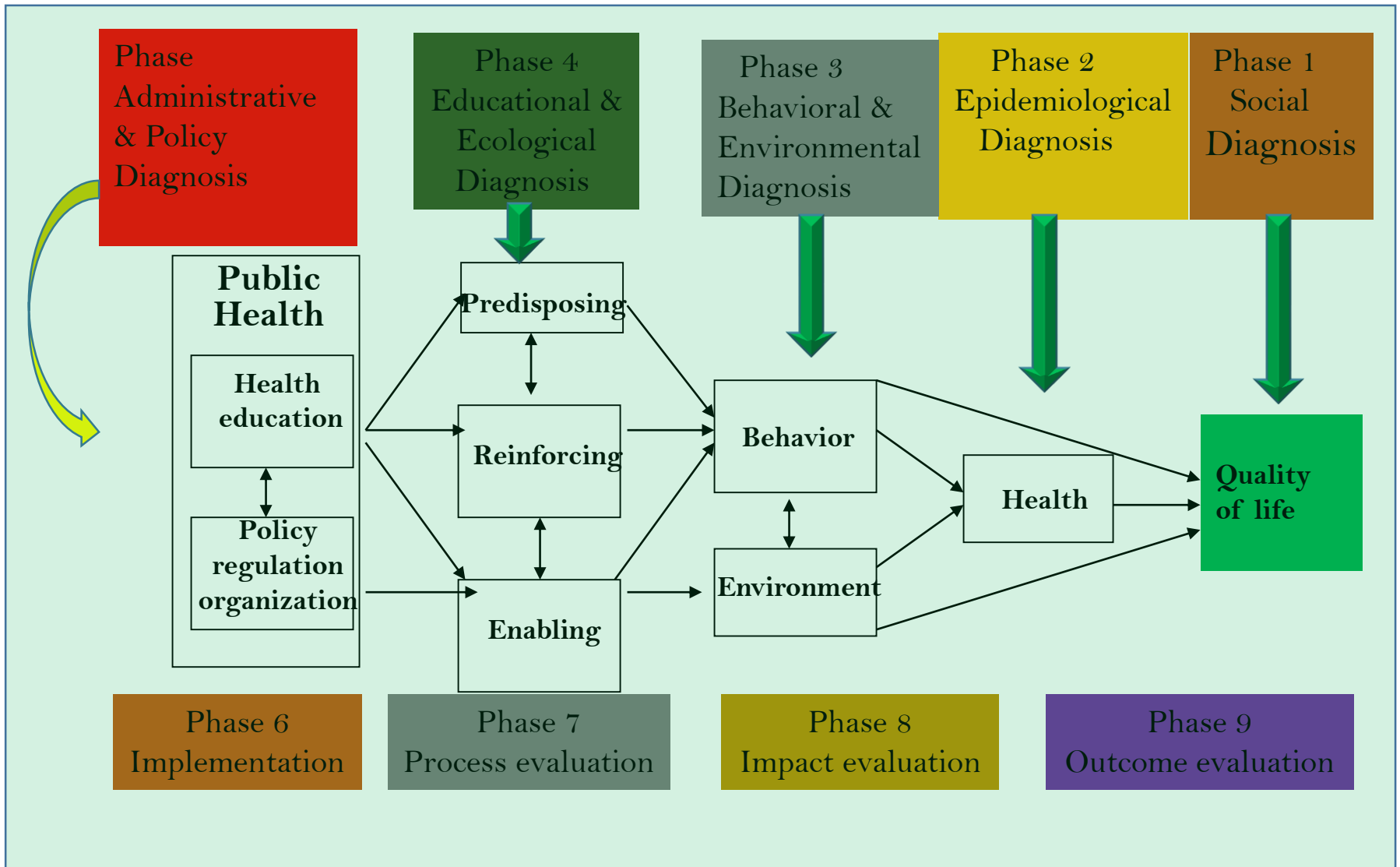
PRECEDE has five phases-PLANNING PHASE

Phase 1: Social Assessment

Phase 2: Epidemiological Assessment

Phase 3: Behavioral and environmental Assessment

Phase 4: Educational and organizational Assessment

Phase 5: Administrative and policy Assessment

Phase 1 : Social diagnosis

Quality of Life (the final outcome)

Health issues from people point of view

- Phase 1: seeks to subjectively define the Quality of life (problems & priorities) of priority individuals or population
- Self assessment of the **needs & aspirations**
- Identify social problems that impact quality of life

Phase 2 – Epidemiological Assessment

Phase 2 : Epidemiological Assessment

Review epidemiological data

List of problems
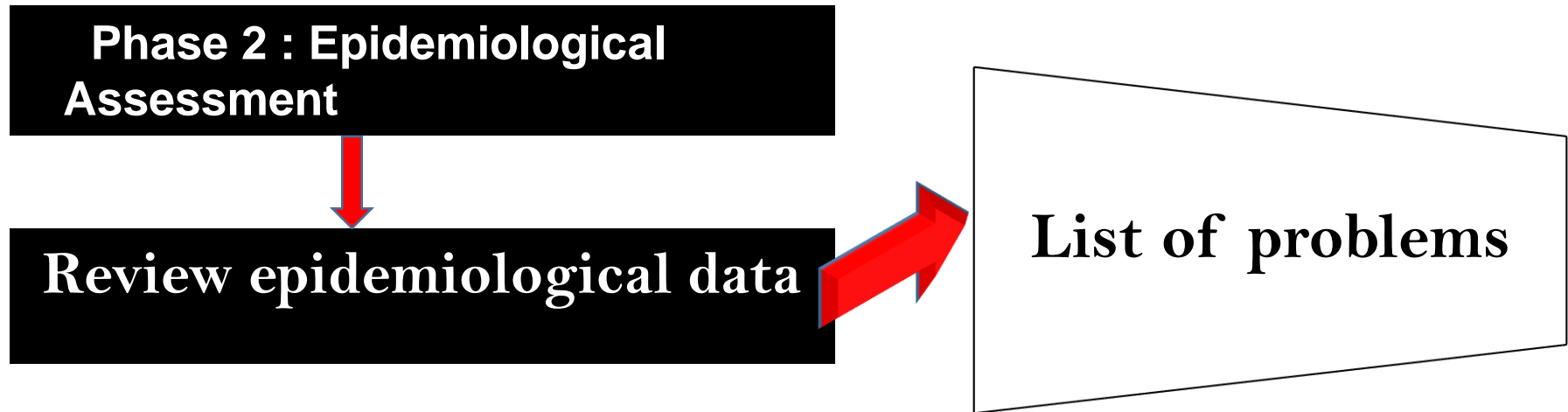
➢ Determine health issues associated with the quality of life.

➢ *morbidity, mortality, risk factors, disability, incidence, prevalence of disease*

- Objective data is gathered, usually from secondary data
- Sources : Epidemiological data

Creating priorities

- Once a list of problems identified in phase *1 & 2, priority* should be set among these problems.

- For the selected health problem, develop program goals and objectives.

- Suppose, malaria is the health problem identified in phase 1 & 2, then develop **program goal** and **health objective** for malaria.

Example of program or health objective for malaria

- **Goal :** To reduce the burden of malaria in Yijubie District by 2015 E.C.

- **Objective**: To reduce the *prevalence of malaria* in Yijubie District by 2015 E.C. community from 45% to 10% by the end of 2015 E.C.

Phase 3. Behavioral and Environmental assessment

1.Behavioral assessment

- Behavioral assessment is the analysis of behavioral links to the problems that are identified in the epidemiological or social diagnosis.

2.Non-behavioral assessment

- Environmental assessment is a parallel analysis of factors in the **social and physical environment** other than specific actions that could be linked to behaviors.

Example

Presence of stagnant water • Lack of ITN • Lack of services

Behavioral + **Environmental** + **Biological/ Personal** = **Malaria**

Not properly using ITN • Staying outside at evening • Not seeking treatment early • Not following course of prescribed drugs

Pregnant women • Under five children
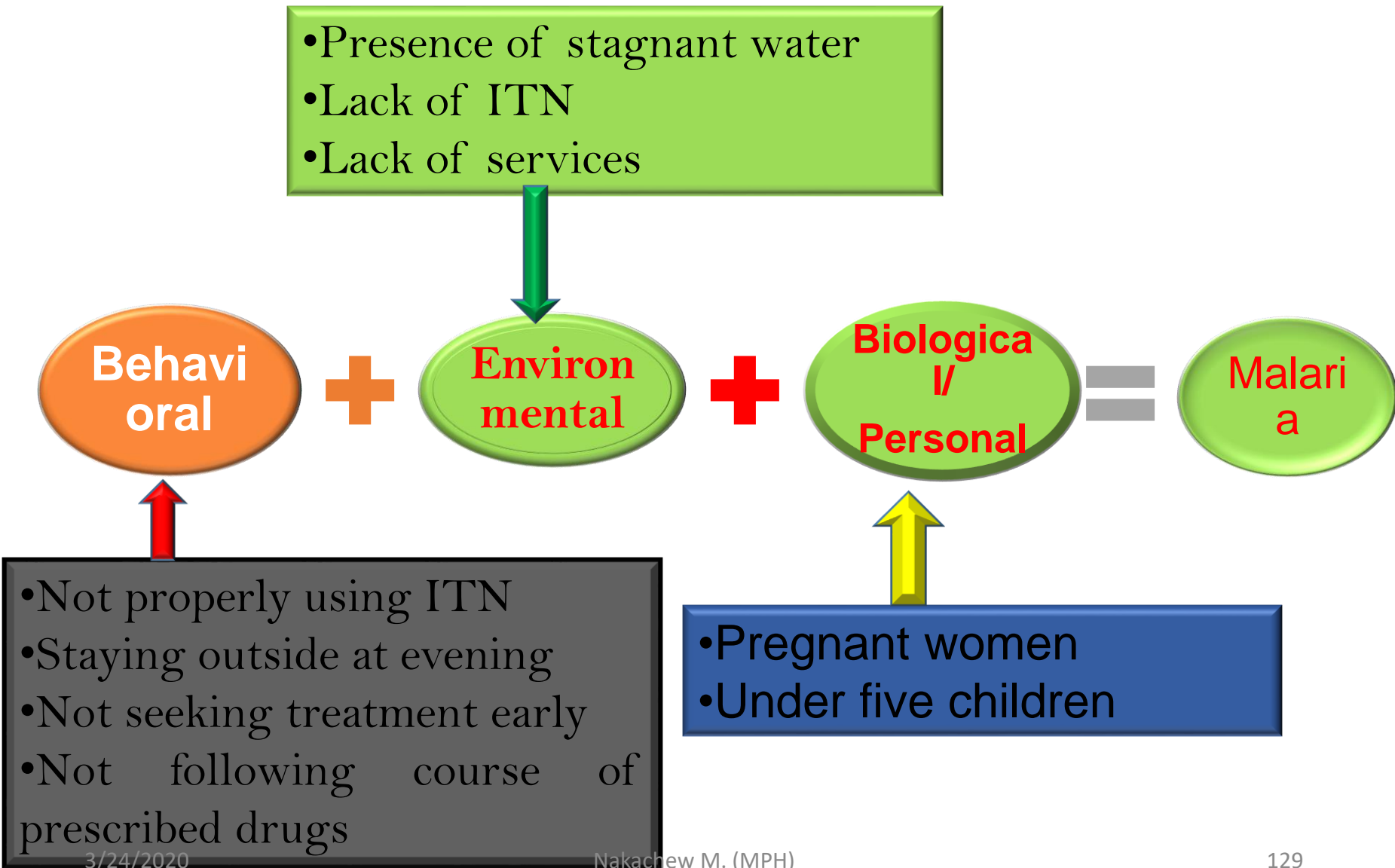
Behavioral factors

- Perhaps, no program has sufficient resources to deal with all behavioral factors identified!

- Consider the importance and changeability of each ***behaviors*** to rate the behavior !!!

	More Important	**Less Important**
More Changeable	High Priority for Program Focus	Low Priority Except to Demonstrate Change for Political Purposes
Less Changeable	Priority for Innovative Program; Evaluation Crucial	No Program

Phase 4: Educational & Organizational assessment

- Identifies **causal factors that must** be changed to initiate and sustain the process of behavioral and environmental change identified in Phase 3

- In phase 3, two broad factors could be identified

Previous example

✓**Behavior factors** : **Improper use of ITN**….**What is the cause of improper use??????**

✓Non-behavior factor….

Educational assessment

Predisposing factors	Enabling factors	Reinforcing factors
Awareness	Availability	Families
Knowledge	Accessibility	Peers etc.
Attitude	Skills	
Beliefs	Laws	

Rating factors in terms of Changeability

Knowledge

Beliefs

Attitude

Value

Increasing difficult to change
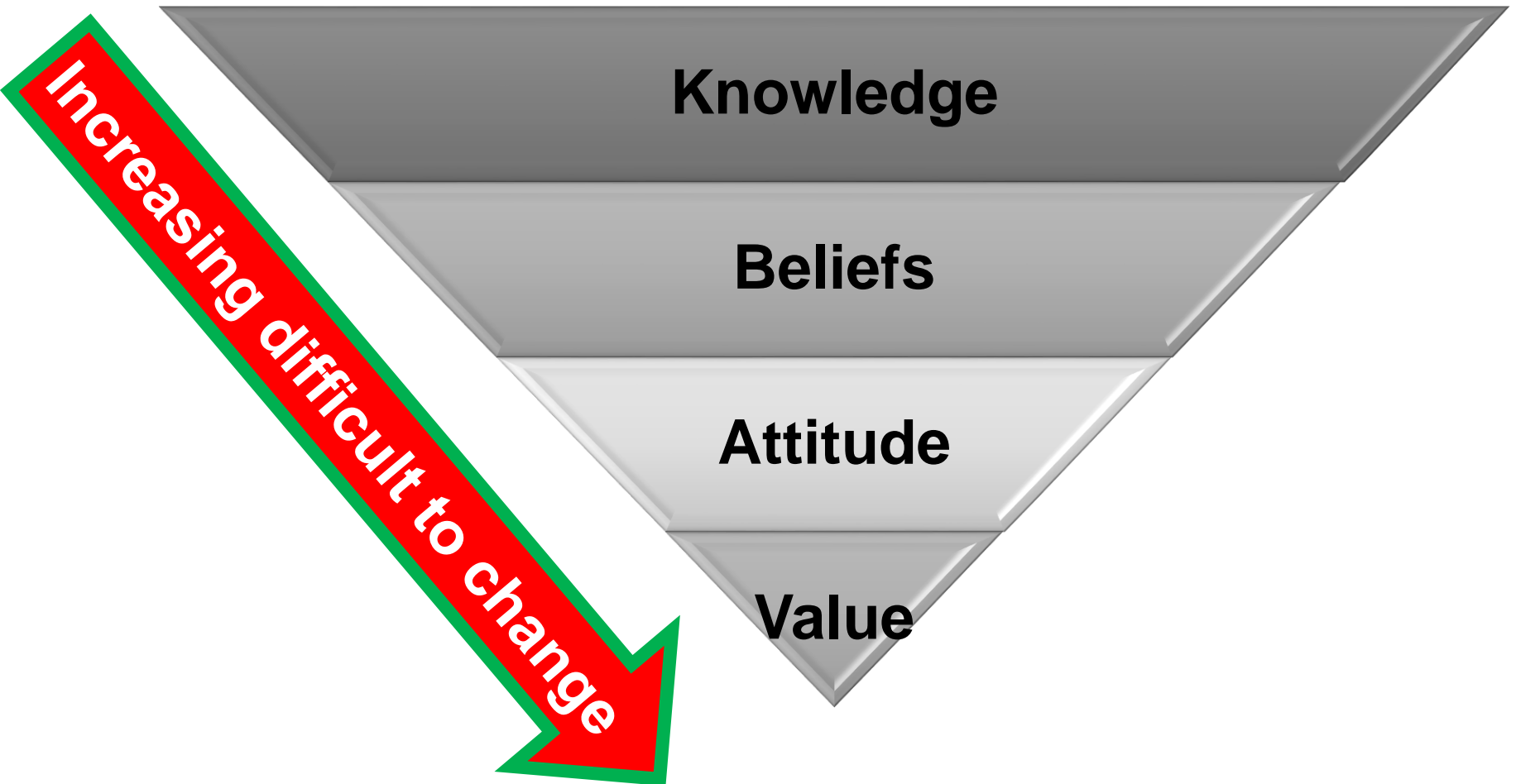
Learning and resource objectives

- For each of the prioritized factors, develop learning objectives and resource objectives

- Predisposing factors …….Learning objectives

- Reinforcing factors …….learning objectives

- Enabling factors ……….resource objectives

Phase 5: Administrative and Policy assessment

- Focuses on administrative and organizational concerns which must be addressed prior to program implementation

- Includes assessment of resources, budget development and allocation, development of implementation timetable, organization and coordination with others

- Analysis of policies, resources and circumstances prevailing organizational situations that could hinder or facilitate the development of the health program Policy assessment.

Design a Comprehensive Intervention plan

PRECEDE- phase ends with a Comprehensive Intervention plan which is ready for implementation and PROCEED begins !

Ready made plan

P
R
O
C
E
E
D

Nakachew M. (MPH)

PROCEED has four phases:

Phase 6: Implementation

Phase 7: Process evaluation

Phase 8: Impact evaluation

Phase 9: Outcome evaluation

Implementation and Evaluation
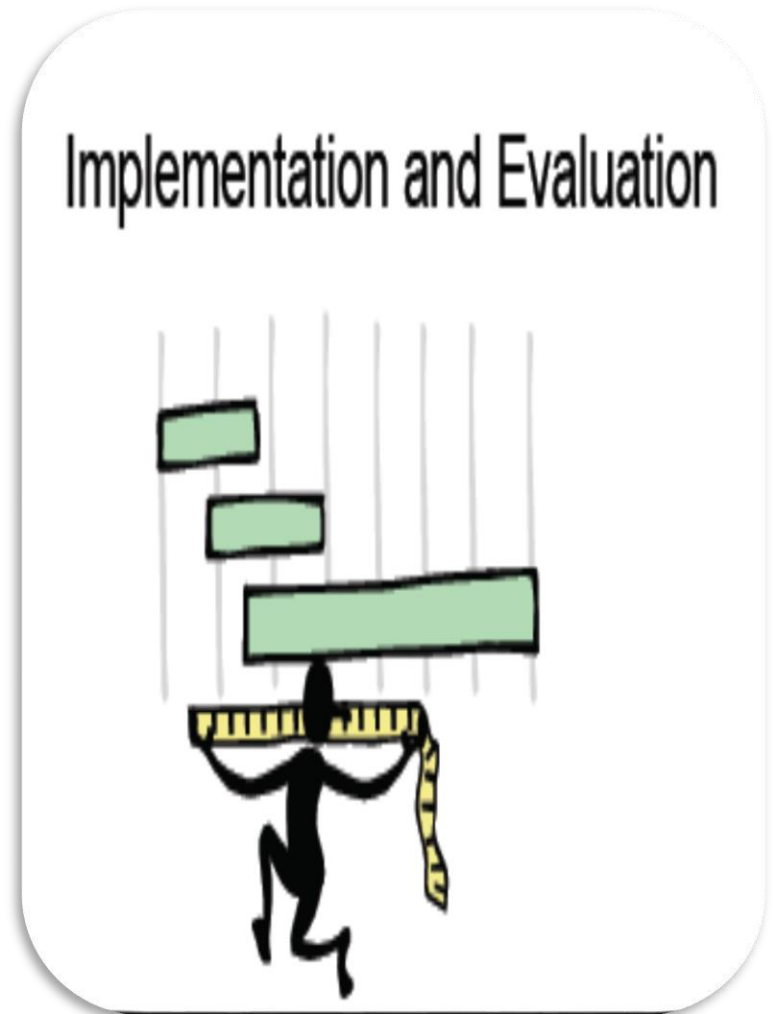
Phase 6: Implementation

- Beginning of PROCEED

- The ***act of converting program objectives into actions*** through policy changes, regulation and organization.

- It is translating the ***goals, objectives*** and methods into a community based health education programs.

Phases 7 , 8, & 9 – Evaluation

- **Phase 7: Process evaluation** - measurements of implementation process to control, assure, or improve the quality of the program

- Entails evaluation of the program activities.

- Weather or not the services are delivered as planned.

- It can under take through monitoring and supervision while the program is on implementation.

✓**Phase 8: Impact evaluation** – immediate observable effects of program (changes in Knowledge, attitude, beliefs, practice etc.)

- Involves evaluating the impact (short term changes) of the interventions on the factors supporting behavior, and on behavior itself.

  - For example, person coming for treatment, changes in community knowledge, changes in practice, use of oral rehydration, latrine construction, and contraceptive use etc.

- **Phase 9: Outcome evaluation** -long-term effects of the program such as reduction in mortality, morbidity, prevalence of disease, improved health status, life expectancy

- The ninth and last phase — that is, determining the ultimate effects of the interventions on the health and quality of life of the population.
  - For example, gains in health, reduction in mortality, morbidity, disability, quality of life etc

- In actual practice, PRECEDE and PROCEED function in a continuous cycle.

- Information gathered in PRECEDE guides the development of program goals and objectives in the implementation phase of PROCEED.

- This same information also provides the criteria against which the success of the program is measured in the evaluation phase of PROCEED.

- In turn, the data gathered in the implementation and evaluation phases of PROCEED clarify the relationships examined in PRECEDE between the health or quality-of-life outcomes, the behaviors and environments that influence them, and the factors that lead to the desired behavioral and environmental changes.

- These data also suggest how programs may be modified to more closely reach their goals and targets.

- This model is based on the principle of community participation.

- It begins by engaging the population of interest themselves in a process of identifying their most important health or quality-of-life issue

References

1. Lawrence W. Green et al. 1 980. Health education planning a diagnostic approach

2. Getnet Mitike 2003 health education for health science students. Lecture note series. Addis Ababa University, Ethiopia

3. WHO 1969. Planning and evaluation health education services. Report of WHO expert committee. TRS 409. WHO, Geneva

4. Pisharoti K.A. 1975 Guide to the integration of health education in environmental health programs. WHO.

5. Bandura, A. (1989). Social cognitive theory. In Vasta, R. (Ed.) Annals of child development. Greenwich: JAI.

Endnotes

- Eggen, P & Kauchak, D. 2007. Educational psychology windows on classrooms. 7th ed. New Jersey: Prentice Hall.

- Feldman, R. S. 2005. Understanding psychology. 7th ed. Boston: McGraw Hill.

- Hinrichs, B. H. 2004. Psychology: the essence of a science. Boston: Pearson.

- Morris, C. G. & Maisto, A. 2001. Understanding psychology. 5 th ed. New Jersey: Prentice Hall.

- Papalia, D. E., Olds, S. W., & Feldman, R. D. 2007. Human development. 10th ed. Boston: McGraw Hill.

- Santrock, J. W. 2008. Educational psychology. 3rd ed. Boston: McGraw-Hill.

Activity

- Think of any health problem in your community and develop a hypothetical health education plan using the *PRECEDE-PROCEED* model of planning.

Thank You !!!

3.7. Community theories

- From the ecological perspective this group of theories includes three categories of factors (institutional, community, and public policy).

- **Institutional factors** – include rules, regulations and policies of an organization that can impact health behavior.

- **Community factors**-include social networks and norms that can impact health behavior.

- **Public policy factors**-Includes legislations (laws) that can impact health behavior.

Diffusion of innovation theory /DOI/

- In health education/promotion, innovations come in the form of new ideas, techniques and behaviors.

- When people become "consumers" of an innovation they are referred to as *adopters*.

- DOI theory is a theoretical approach which provides an explanation how innovation, or ideas perceived as new are communicated (diffused) through channels among the members of the social system

- How people create & share information?

- What makes them adopt or change a behavior?

- How quickly are they willing to change?

- This model mostly used in market advertisement of new technologies.

DOI Cont'd….

- There are 4 elements in the diffusion of innovation (Evert Rogers):

1. *Innovation* - means an idea, practices or objects perceived as new by the people.

2. *Communication channels* - the means by which the new idea is communicated or message gets from one individual to the other.

    - E.g. 'iqub', 'idir' (social system)

3. *Time* - takes to accept the innovation.

4. *Social system* - a set of interrelated units that are engaged in joint problem solving to accomplish a common goal.

DOI Cont'd….

- Adopter categories in the diffusion process based on the amount of time it took to adapt an innovation.

- These are;
  - A. Innovators

  - B. Adopters

  - C. Early majority

  - D. Late majority

  - E. Laggards

DOI Cont'd….

Characteristics by Rogers identified in categories:

Innovators

- Are first to adapt an innovation (they want to be first to do something)
- Control substantial a financial resource to absorb possible loses if the innovation is unprofitable.
- They are venturesome, independent, risky, daring and desire for rush.
- They have the ability to understand and apply complex technical knowledge (mostly they are literates).
- Have the ability to cope with high degree of uncertainty about the innovation.
- Are few and changed very earlier.
- they have higher socioeconomic status than any other group
- they require a shorter adoption period than any other category

DOI Cont'd….

Early adopters

- ✓ Are very interested in innovation, but they do not want to be first to be involved.

- ✓ Are integrated part of the local social system.

- ✓ Possess greatest degree of opinion leader ship in most social systems (are respected by peers)

- ✓ Are usually successful.

- ✓ Serve as role model for other members or society

DOI Cont'd….

Early majority

- May be interested in innovation, but will need some external motivation to get involved.

- Interact frequently with peers (sociable and jockey)

- Seldom held the position of opinion leadership.

- Deliberate (check and discuss) before adopting a new idea.

- One-third of the members of a system, making the early majority the largest category.

DOI Cont'd….

Late majority

➢ Are skeptical and cautious and will not adopt an innovation until most people adopt.

➢ one-third of the members of a system

➢ Pressure from peers.

➢ And adapt because of economical necessity.

DOI Cont'd….

Laggards

- Will be the last to get involved in an innovation, if they get involved in an innovation at all.

- Posses no opinion leadership.

- Isolated in the social systems

- Point of reference is in the past.
    - E.g. '*Diro kere diro eko! Doro 25 santim neber'*.

- Suspicious of innovation
    - E.g. what if the 'whites' put virus in the condom?

- But also are usually with limited resources.
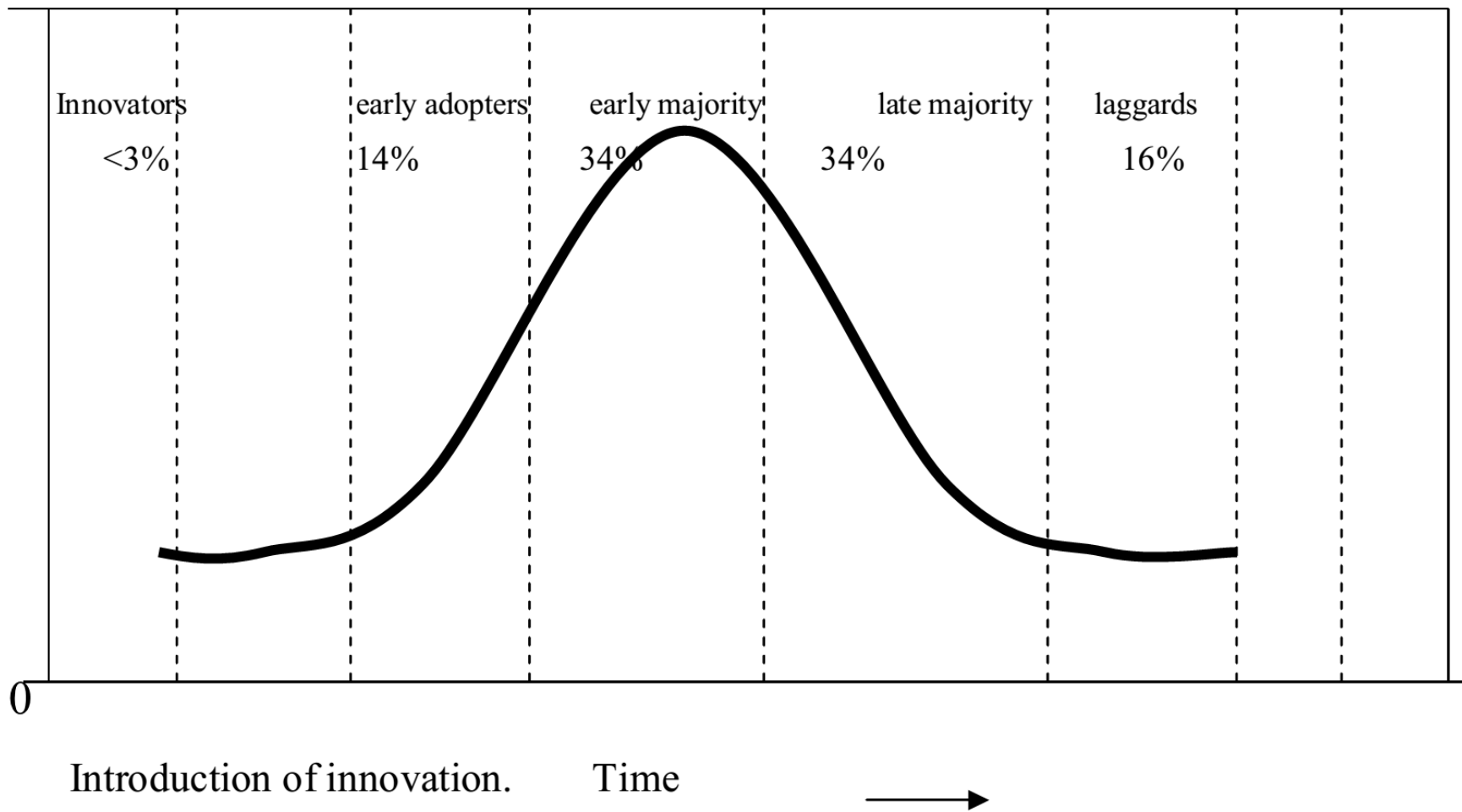
- Innovation-decision making is lengthy

Figure 3.8: Bell shaped curve and adopter categories (the rate at people become adopters)

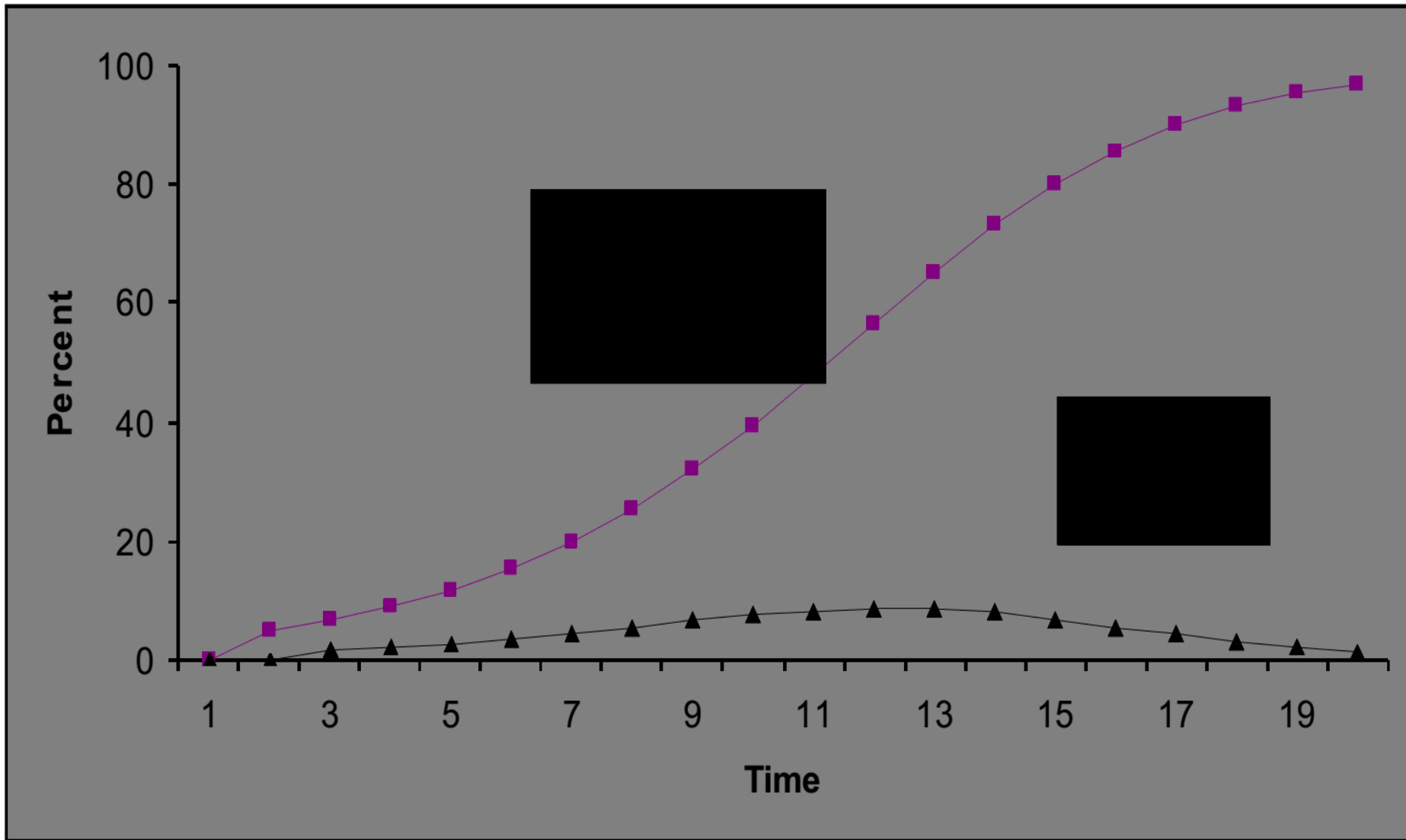Source: Randall R. Cottrell, James T. Girvan, James F. McKenzie, 2006.
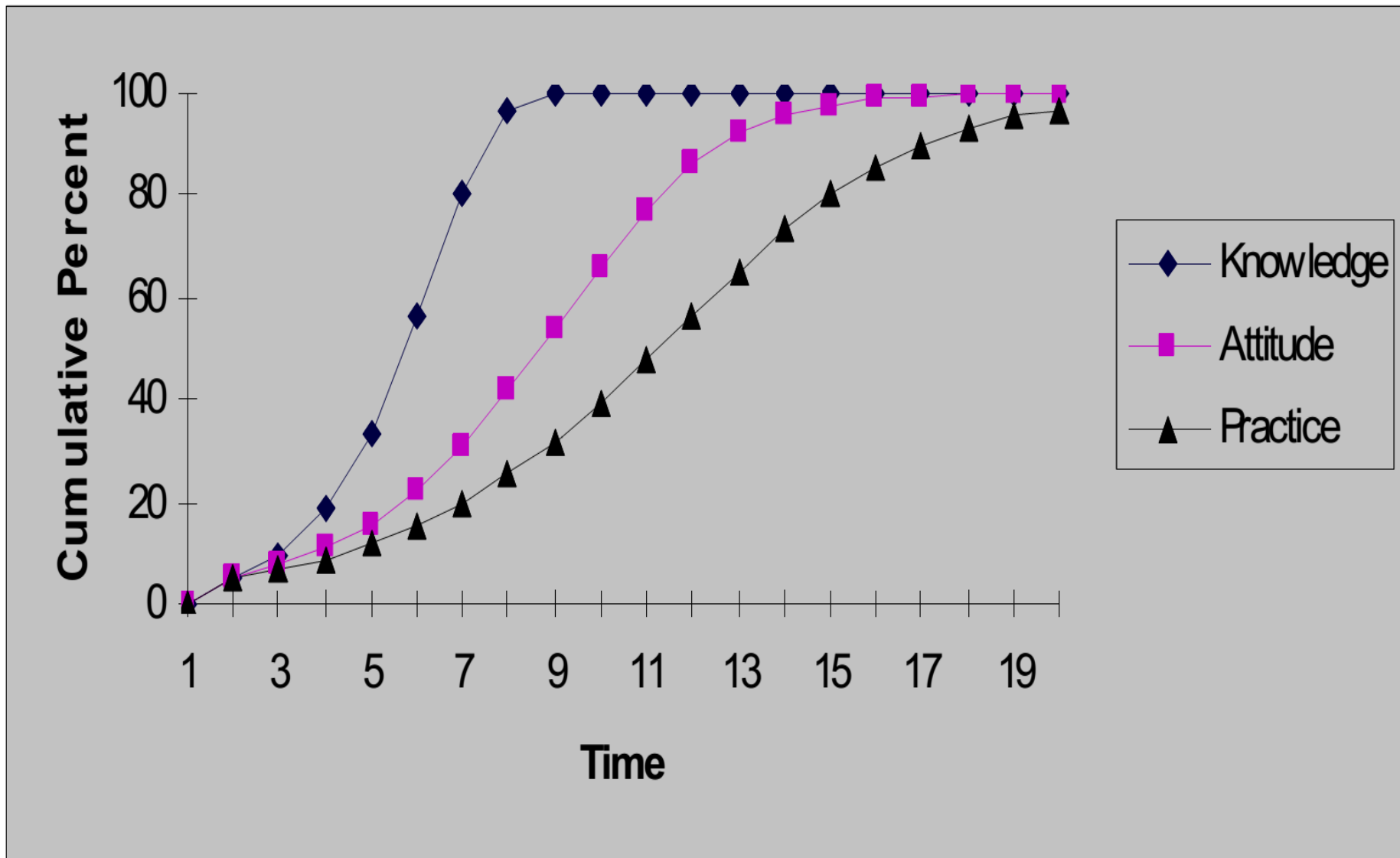
Figure 3.9: Typical diffusion of innovation curve

Figure 3.10: KAP curve in diffusion of innovation

Behavior change in population

Not all people change their behavior.

- Some are apt to change and others are reluctant. Based on research' findings, in any given society, there are four types of people.

- A very small percentage of people (2-3%) accept any ideas with out any question.

- Includes people who come up with new ideas (innovators) and those who are early adopters of the behavior.
    - For example community leaders belong to this group.

- Some do not take the new ideas readily (14%).

- But they prefer to observe the behavior from other people who are accepted by the community like opinion leaders.

Behavior change Cont'd…..

- The great majority (about 68%) Says---Ok----later on, but it is not usually easy to see them practicing the new behavior.

- This is the group that is difficult to change.

- No matter what one says or does, about 16% will not accept the new idea.

- This group includes older peoples such as grand parents.

- **N.B**. Fortunately each of the above has group leaders. If we identify and use them they can change the behavior of others.

The adoption process

- **Diffusion process**: is the spread of a new idea from its source of invention or creation to its ultimate users or adopters"-occurs within society as a group process.

- **Adoption process**: is the mental process through which an individual passes from first hearing about an innovation to final adoption"- it pertains to an individuals. Rogers breaks the adoption process down into **five main stages**.

Stages Cont'd…..

1. **Awareness stage** - the individual is exposed to the innovation but lacks complete information about it. E.g. about a fertilizer.

2. **Interest or information stage**-the individual become interested in the innovation and seeks additional information about it and considers its general merits.

   - E.g. by reading form magazines, manuals, etc. about this fertilizer.

3. **Evaluation stage**-the individual makes mental application of the information to his present and future events and weights its merits for his own situation, and then he decides weather or not to try it.

   - For example, the person may evaluate the fertilizer; in terms of its benefit (increase his yield in the present time) and he may also evaluate the innovation as, what if it decreases the production in the future (anticipation).

4. **Trial stage**-individuals usually make full use of an innovation on small scale. It is actual application of the idea.

5. **Adoption stage**- the individual accepts to continue full use of the innovation.

Rejection and Discontinuance

- Of course, as Rogers's points out, an innovation may be rejected during any stage of the adoption process.

Rogers defines

- **Rejection:** is a decision not to adopt an innovation**.**

- **Discontinuance**: is a rejection that occurs after adoption of the innovation.

- Many "discountenances occur over a relatively short time period" and few of the "discountenances were caused by supersedence of a superior innovation replacing a previously adopted idea".

- The relatively later adopters had twice as many discountenances as the earlier adopters.

- Previous researchers had assumed that later adopters were relatively less innovative because they did not adopt or were relatively slow to adopt innovations.

- This evidence suggests the later adopters may adopt, but then discontinue at a later point in time.

References

1. Glantz K, Lewis FM, Rimer BK, eds. Health Behavior and Health Education: Theory, Research, and Practice. 2nd ed. San Francisco, CA: Jossey-Bass, Inc.; 1997.

2. Baranowski T. Beliefs as motivational influences at stages in behavior change. International Quarterly of Community Health Education.1992;13:3-29.

3. Ajzen I, Fishbein M. Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs, NJ: Prentice-Hall; 1 980

4. Oldenburg, B., Glanz, K. and Ffrench, M. (1999) The application of staging models to the understanding of health behavior change and the promotion of health. Psychology and Health. 1999, Vol. 14, pp. 503-516

5. Karen G., Barbara K. & Frances M. Health Behavior and Health Education: Theory, Research and Practice. 3 rd edition 2002.