The Theoretical Basis for Practice-Relevant Medication Use Research:

Patient-Centered/Behavioral Theories

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Overview

- What is theory, the functions theories serve, and common mistakes people make when using or not using theory
- Guiding principles derived from theory
- Skeleton theoretical framework for future research

What is Theory

A theory is a set of concepts and propositions that specify how certain variables are thought to influence other variables.

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Functions of Theories

- Integrate findings from past research
- Generate hypotheses for future research
- Help understand the determinants of health behavior
- Help identify information required before an intervention can be designed
- Help identify intervention targets

Common Mistakes

- Ignore theory
- Give lip service to theory
- Use theory as a substitute for knowledge gained from experience and careful analysis of the problem of interest

Guiding Principles: #1

- There are no perfect theories
Guiding Principles: #2
- Behavioral science theories are probabilistic not deterministic

Guiding Principles: #3
- When trying to influence a health behavior, the health behavior of interest must be defined precisely

So, what do we mean when we talk about “medication use”?

Medication Use
- Adherence
  - Not fill an original prescription
  - Omit doses
  - Take wrong amount, too little or too much
  - Take at wrong time of day
  - Space doses incorrectly
  - Not follow instructions concerning administration (e.g., with or without food)
  - Take drug holidays
  - Discontinue regimen

Medication Use
- Medication Self-Management
  - Obtain original prescription and refill authorizations
  - Obtain medication
  - Integrate medication into daily routine
  - Use the medication in ways that minimize potential harms (e.g., side-effects, unintentional poisonings)
  - Monitor potential medication-related problems
  -Resolve medication-related problems

Dimensions of Behavior
- Action: Adherence Medication Self-Management
- Target
  - Oral medications versus injectables
  - Medications with different risk profiles, side effects, costs
  - Medications for prevention versus symptomatic relief
  - Etc
- Context
  - Taking medication at home versus at work or school
  - Taking medication while traveling
  - Number of different medications used
  - Etc
- Time
  - Acute versus chronic condition
  - Once versus multiple daily dosing

Guiding Principles: #4
- Many factors outside of patient control influence patient medication use

Ecological Models of Health Behavior
### Examples of Ecological Models
- Social Learning (Cognitive) Theory, Bandura, 1986
- Ecological Model of Health Behavior, McLeroy et al, 1988
- Social Ecology Model of Health Promotion, Stokols, 1992
- Structural-Ecological Model, Cohen et al, 2000
- Theory of Triadic Influence, Flay & Petraitis, 1994
- Model of Community Food Environments, Glanz et al, 2005
- Resources and Skills for Self-Management, Fisher et al, 2005

### Ecological Models: Core Tenets
- Health behavior is influenced by multiple sources, operating at different levels
- Influences on behavior interact across levels
- Multi-level interventions should be most effective in facilitating behavior change
- Ecological models should be behavior-specific

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### Barriers to Optimal Medication Use
- Lack of knowledge
- Lack of motivation
- Lack of skills or resources
  - Health insurance
  - Transportation
  - Physical abilities
  - Cognitive abilities
  - Social support
  - etc

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### Guiding Principles: #5
- No two people are the same
  - The importance of individualized assessment.

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### Guiding Principles: #6
- Patient motivation is a fundamental ingredient, especially when maintenance of long term behavior is the goal
  - Value Expectancy
  - Theories
### Examples of Value Expectancy Theories

- Field Theory (Lewin, 1942)
- Social Learning Theory (Rotter, 1954)
- Health Belief Model (Hochbaum, 1958)
- Theory of Reasoned Action (Fishbein & Ajzen, 1975)
- Social Cognitive Theory (1977)
- Conflict Theory (Janis & Mann, 1977)
- Common Sense Model of Self-Regulation (Leventhal et al., 1980)
- Transtheoretical Model of Change (Prochaska & DiClemente, 1983)
- Protection Motivation Theory (Prentice-Dunn & Rogers, 1986)
- Precaution Adoption Process Model (Weinstein, 1988)
- Theory of Planned Behavior (Ajzen, 1991)

### Value-Expectancy Theories: Core Tenets

- Behavior is under voluntary control.
- People are more likely to adopt a recommended behavior if they believe that the benefits outweigh the costs.
- People are more likely to adopt a recommended behavior if they believe that they will be able to enact the behavior successfully.
- People weigh the benefits and costs associated with different behavioral options before acting.

### Guiding Principles: #7

- Health care providers can have a profound effect on patient medication use and this effect can operate through several possible causal pathways.

### Examples of: Patient-Provider Communication Theories

- Paternalism, Parsons, 1951
- Models of Physician-Patient Relationships, Szasz & Hollender, 1956
- Consumerism, Reader, 1972
- Cognitive Model, Ley, 1988
- Model of Empathic Understanding, Squier, 1990
- Types of Physician-Patient Relationships, Roter & Hall, 1992
- Uncertainty Theory, Mishel, 1999
- Model of Decision Making, Charles et al., 1999
- Uncertainty Management Theory, Braithwa, 2001
- Linguistic Model of Patient Participation in Care, Street, 2001
- Patient Agency Model, O’Hair et al., 2003
- Integrative Model of Shared Decision Making, Makoul & Clayman, 2006

### Theoretical Causal Pathways

**Proximal Outcomes**
- Exchange information
- Respond to emotions
- Foster relationship
- Make decisions
- Enable self-management

**Intermediate Outcomes**
- Knowledge
- Trust
- Rapport
- Satisfaction
- Access to care
- Tailored medication regimens
When planning an intervention to optimize patient medication use, it is important to develop a conceptual model that links intervention inputs to the outcomes that are desired. This model should guide the evaluation plan.

Guiding Principles for Medication Use Research

1. There are no perfect theories
2. Behavioral science theories are probabilistic not deterministic
3. When trying to influence a health behavior, the health behavior of interest must be defined precisely
4. Many factors outside of patient control influence patient medication use
5. No two people are the same. Individualized assessment is crucial
6. Patient motivation is a fundamental ingredient; especially when maintenance of long term behavior is the goal
7. Health care providers can have a profound effect on patient medication use and this effect can operate through several possible causal pathways
8. When planning an intervention to optimize patient medication use, it is important to develop a conceptual model that links intervention inputs to the outcomes that are desired.

### Ecological Model for Optimal Medication Self-Management

<table>
<thead>
<tr>
<th>Level</th>
<th>Intervention Goals</th>
<th>Intervention Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient</td>
<td>Skill test and report; identify individual needs and resources; Provide patient education</td>
<td>Establish goals collaboratively; Enhance patient self-management skills</td>
</tr>
<tr>
<td>Providers</td>
<td>Enhance provider knowledge and skills</td>
<td>Facilitate patient access to medication; Provide follow-up and support</td>
</tr>
<tr>
<td>Health Care System</td>
<td>Enhance access to services</td>
<td>Enhance reimbursement for services</td>
</tr>
<tr>
<td>Social Policy, Governmental Regulations</td>
<td>Enhance access to medications</td>
<td>Improve quality of patient education materials</td>
</tr>
</tbody>
</table>
Thank You for
Your Time and Attention