



## Centers for the Study of Health Beliefs & Behavior

Dedicated to Behavioral Management of Chronic Conditions

# How Does the Clinician's Recognition of Patient's Mental Models Affect Health Outcomes?"

*SBM: Montreal, Canada, April, 2009*

Howard Leventhal, PhD

SESSION CHAIR

Introductory Remarks

Alex Federman, MD, MPH

----- Health Literacy is Associated with Asthma Beliefs  
Among Older, Inner-City Adults

Leigh Alison Phillips, MS

----- What do patients hear & recall that resolves presenting complaints

Paul Falzer, PhD

----- Recognizing a patient's mental model: Its effects on how  
clinicians use treatment guidelines

Edith Burns, MD

----- Expertise in Self-Management of type2 diabetes with home technology

Elaine A. Leventhal, MD, PhD

DISCUSSANT

Changing mental models in clinical practice

**Although Rigorous Trials Show that Behavioral  
interventions work**

**Chronic Illness Management Outside the World of Clinical  
Trials**

**Has been & is still beset by Non Adherence**

# **Changing mental models in clinical practice**

**Is this the answer to the Adherence dilemma?**

**Is it necessary?**

**Is it possible?**

**How?**

## **Q: What is a theory supposed to do?**

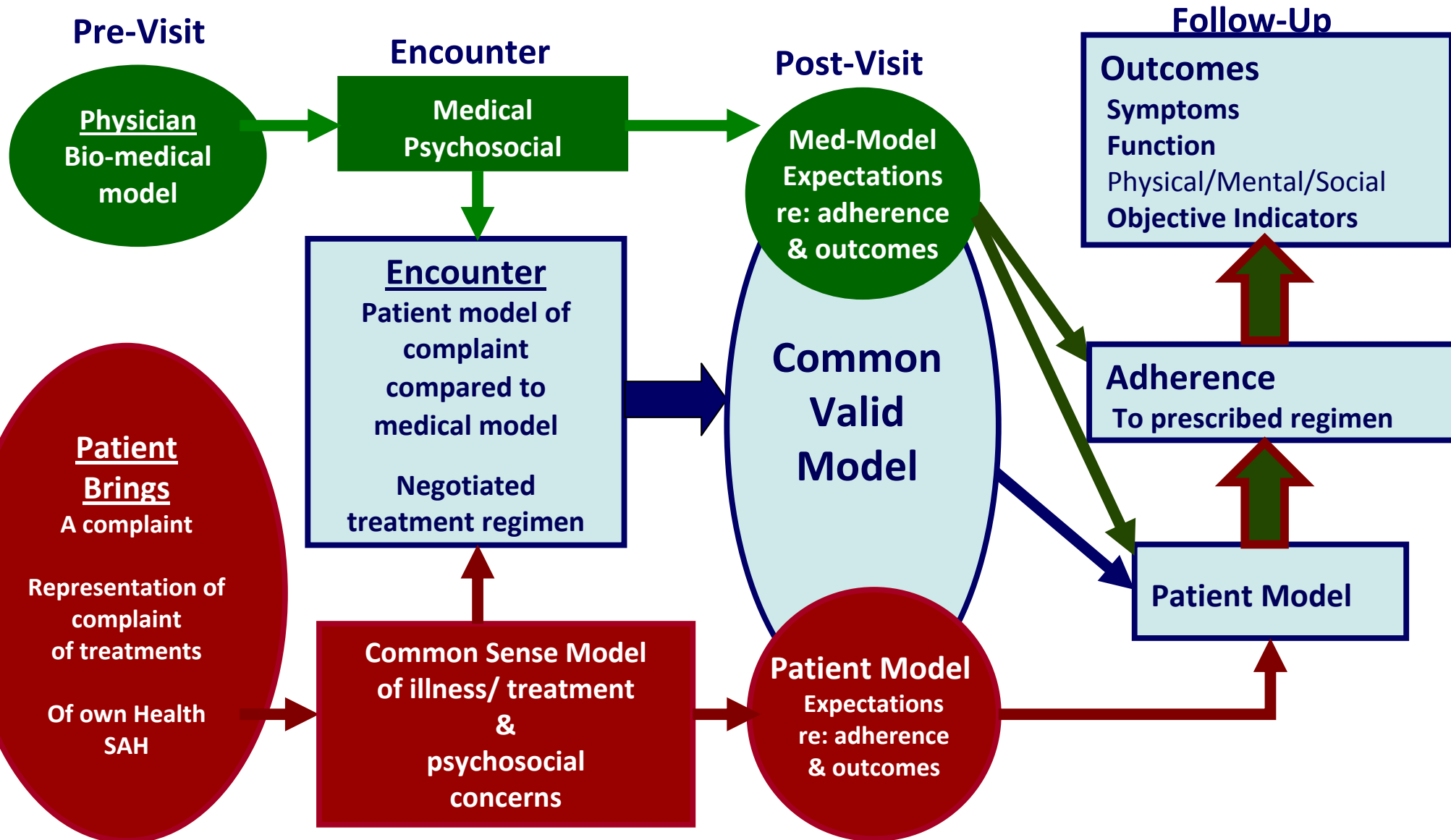
**Describe & predict behavioral outcomes that affect objectively measurable health outcomes**

**Describe the processes underlying the constructs in predictive models**

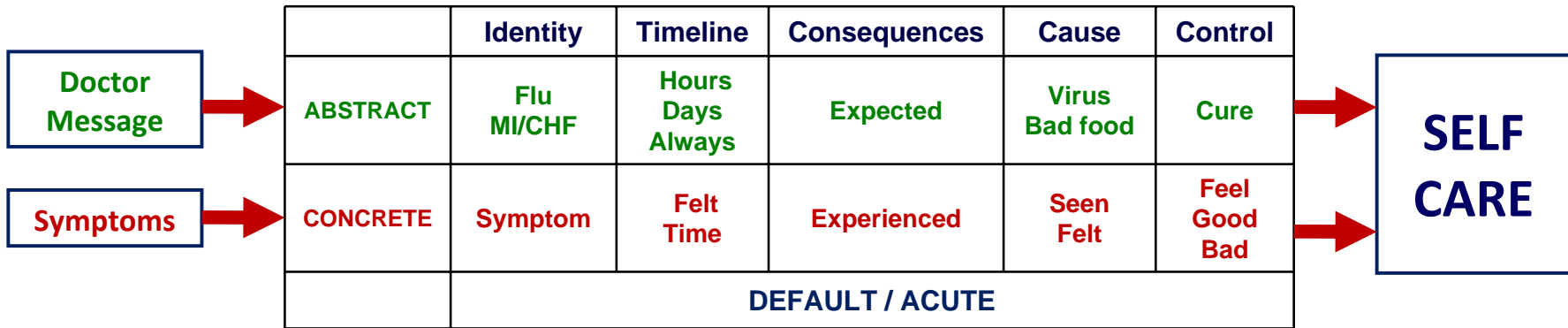
**Generate & test experimental “interventions” presumed to affect underlying process**

**Make sense of observed outcomes & be usable for modifying clinical practices**

# The Medical Encounter: What does the patient bring & with what does s/he leave?



# Common-Sense Model for a Presenting Complaint



**Each Variable in one of the five Content Domains is**  
**ABSTRACT & CONCRETE / EXPERIENTIAL**

**Is there a process by which experience (somatic changes --  
symptoms & functional change) are linked &/or connected to  
illness concepts or labels?**

**The process reflects the patient's history**

**Somatic sensations & function are MONITORED CONTINUALLY**

**Monitoring is both non-conscious [implicit] & conscious**

**Deviations are detected from PROTOTYPE of SELF in context**

**PROTOTYPE RECOGNITION CHECKS detect deviations**

**Deviations are responded to both automatically & deliberately  
& linked to PROTOTYPES of temporary states & possible  
ILLNESSES & TREATMENT Outcomes**

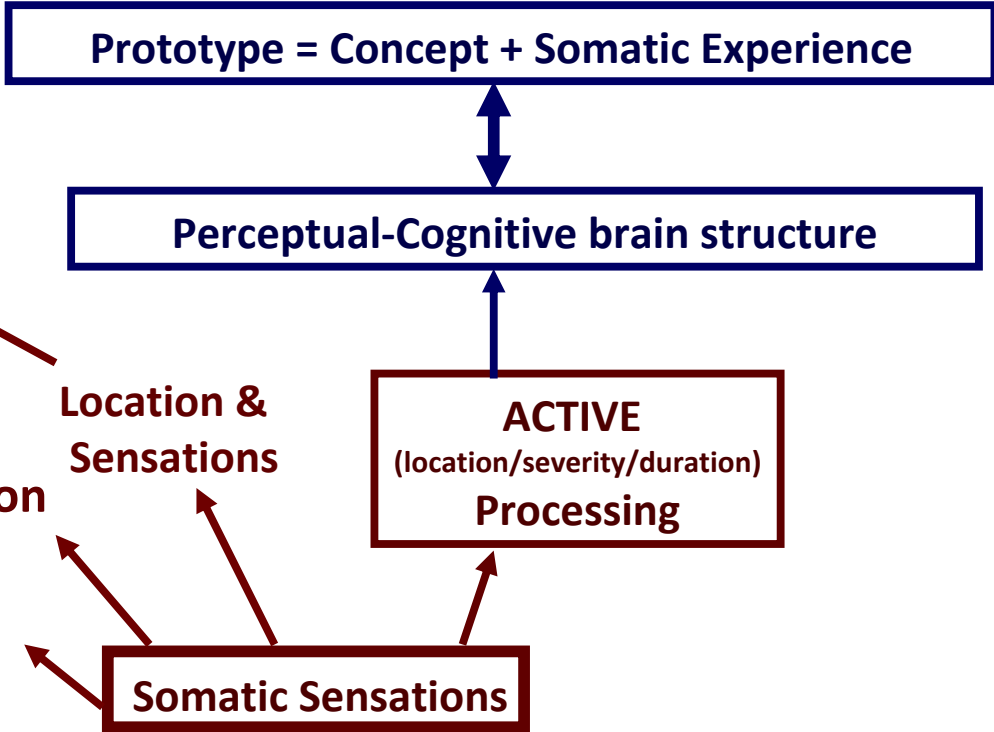
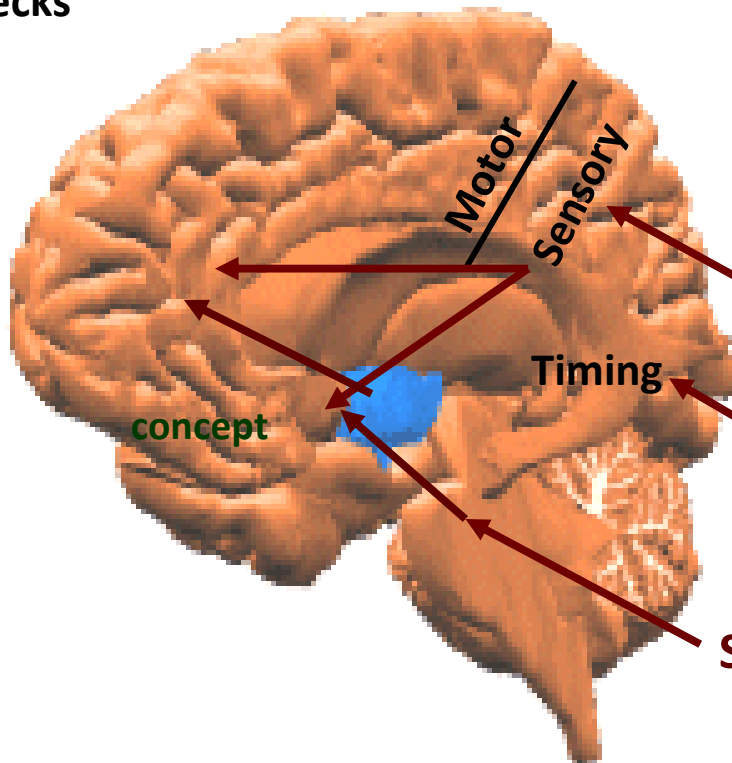
# Matching Experience to Prototypes: Prototype Recognition Checks

**Spatial  
Temporal  
Checks**

Location: Caused by organ at specific location  
Sensory properties: Sharp, dull, pressure, ache, throb  
Severity: Pain & disruption of physical &/or mental function  
Duration: Felt time & clock time : Exceed expectations (Mora et al (2002). *Psychosomatic Medicine*)  
Trajectory/Stability/ Predictability

**Affective  
Checks**

Positive Feelings: Feel Good = Healthy  
Negative Feelings: Distress, disgust etc. = Sick



## PRC are Central in Interpersonal Communication

Clinicians Explore Presenting Complaints & Conduct a Review of Systems to Form Hypotheses for Diagnosis & Treatment & Determine the Need for Additional Tests

### Systems Review

*How are you?*

*What bothers you?*

*Where?*

*How does it feel?*

*How long?*

*What did you do?*

*What happened?*

Feelings: Positive mood & no symptoms = Healthy  
Novelty: Deviates from body image &/or from acquired prototypes  
Severity: Pain & disruption of physical &/or mental function

Location: Caused by organ at specific location

Sensory properties: Sharp, dull, pressure, ache, throb  
Pattern & conceptual fit: Eg. Hypertension=Tension/stress

Duration: Felt time & clock time : Exceed expectations  
Temporal trajectory: Worsening vs. declining or fluctuating

Control: I took X, Y; Rested:  
It did/did not improve with self-care

Can the clinician perceive the Patient's CSM → Expectations & Concerns  
As S/HE validates PCs as valid tools for self diagnosis??

**L. Alison Phillips generated a scale that looked at how patients and practitioners used the CSM model in real time encounters in an primary care clinic.**

**The CSM scale predicted short-term (acute) health-related outcomes, including treatment adherence and problem resolution differently from psychosocial skills with treatment adherence predicted by both the CSM scale and by psychosocial skills but problem resolution was only predicted by the CSM scale, not by psychosocial skills) even though patient satisfaction was predicted by both the CSM scale and psychosocial skills.**

**Thus CSM predicts behaviors , i.e., adherence .**

**Dr. Alex Federman described the effects of poor health literacy shaped by common sense beliefs on management of asthma. His first study showed poorer asthma control, more frequent use of resources and lower quality of life) for Hispanic adults who had limited proficiency in English, thus teasing out the CSM is hampered for the clinician.**

**His second pilot study identified potential mediators of beliefs about asthma. including the No Symptoms/No Asthma belief (NSNA), which is associated with poor asthma-self management.**

**Thus the patient has literacy issues, but is not the clinician also “illiterate” about the signs and symptoms of the patient’s CSM?**

**Dr. Edith Burns' report on the use of a computer based system for blood sugar management in low income diabetic patients, who's elevated HgA1C's represents reminder and feedback system to assist with self-management. Patients' reliance on the Common Sense View of T2DM often overrides professional advice regarding T2DM self-management. The in-home automated reminder and feedback system effectively assisted with self-management with impressive decrements in glycolated hemoglobin levels.**

**Participants' Common Sense Views of T2DM include beliefs that they only have the disease when they have symptoms, and that their disease may be cured. Significant proportions report that elevated blood sugars are attributable to anger, while over half disagree with, or are unsure about statements that being overweight, troubles with endogenous insulin, or advancing age are associated with T2DM. Although most report a high sense of control over their disease and in their ability to perform SMBG, less than half feel confidence in their ability to use their diabetes medicine, or to affect glucose levels by modulating their diet or changing physical activity levels.**

**The real-time feedback relating SMBG measures and timing to self-management behaviors (e.g. eating, exercise) may be more effective in building these skills than standard advice provided in the clinical setting. Thus this may represent the HOW.**

**Paul Falser raised the issue that patient perception of illness is generally acknowledged to be a significant factor in the treatment of schizophrenia, its influence on adherence, maintaining a productive therapeutic alliance, and clinical outcome. His results indicate that illness perception factors had a clear and significant deterrent effect on clinician willingness to recommend a 1st generation antipsychotic.**

**Clinicians became more conservative and were less likely to recommend the more effective treatment when they were confronted with illness perception factors, especially when the patient's model of illness was inconsistent with the clinical picture. Second, a standard clinical algorithm relied on assessments of symptom remediation and was not helpful in addressing illness perception phenomena.**

**Third, perhaps most significant, merely acknowledging the importance of the patient's model is not sufficient to overcome conservative decision making.**

**Can CLINICIAN BEHAVIOR be changed?**

# Question

**Can clinicians perceive, infer, share, & negotiate differences between biomedical & common sense models (CSM) & help patients create an effective, voluntary control system?**

## **A problem in Theory of Mind & Social Perception**

**Can the clinician perceive the Patient's CSM → Expectations & Concerns  
As S/HE validates PCs as valid tools for self diagnosis??**

# Can Clinicians Help Patients Find & Use Valid TOTE Features?



Symptoms / Mood /  
Function



What signal?  
BG = HbA1c  
BG/HbA1c = How I feel

What is the output?

Meter? Feelings?  
When? While eating/running?  
2 Hrs. After eating/running?  
In AM only?

What behavior?



Physiology



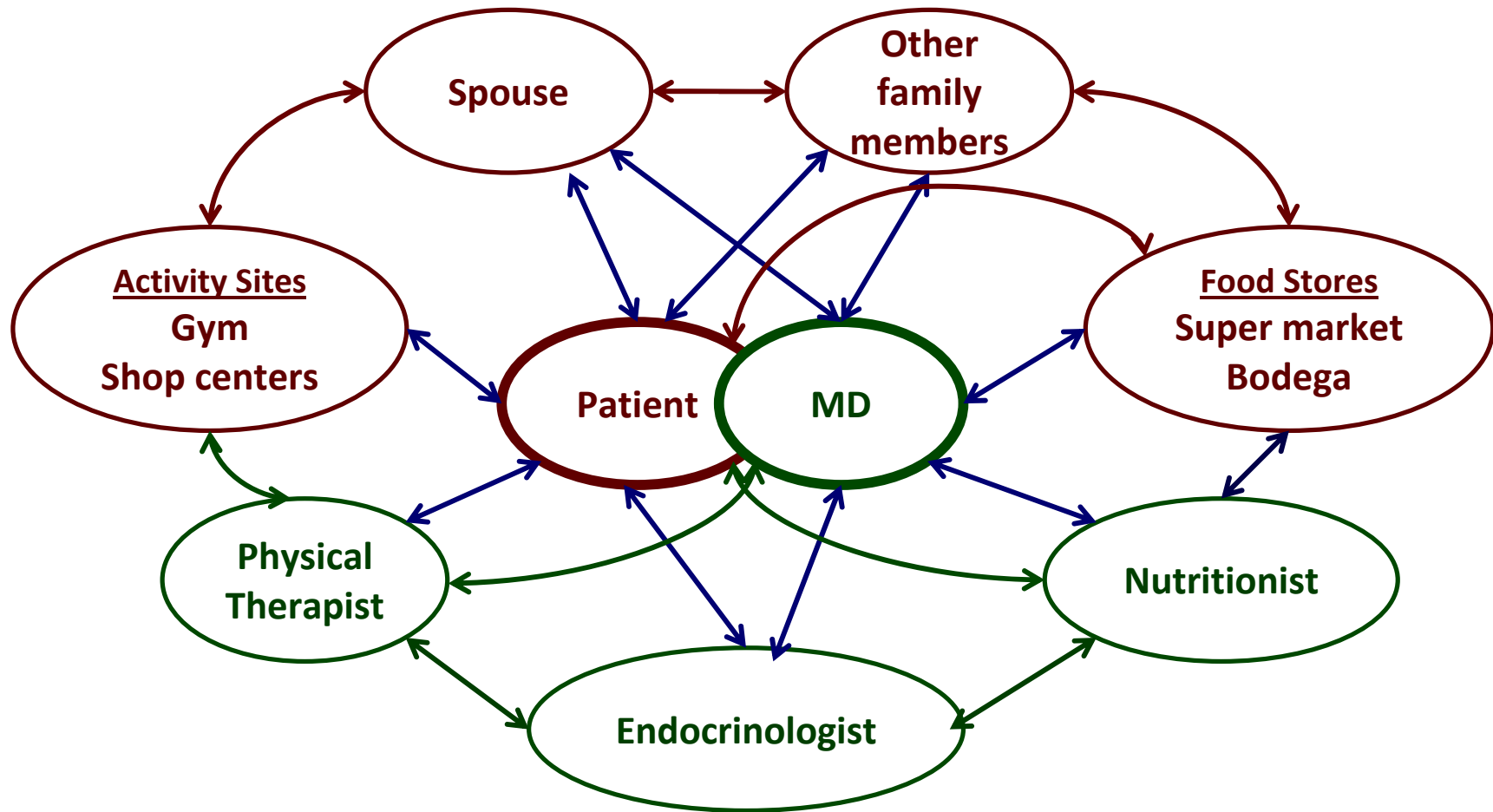
What is the source?

**It takes Words integrated with Perceptual Images to alter  
Prototypes & Illness Representations**

**The key is in recognizing how the patient's model influences clinical outcomes.**

**Incorporating this recognition into clinical training programs and treatment guidelines may facilitate better decisions and have a beneficial effect on quality of care.**

# It's a system failure!





# Commonsense Models Have Content

**Identity: Symptoms & Label (name)**

**Timelines: Duration, rate of onset**

**Cause: Perceived antecedents** (etiology & triggers)

**Control: Is it controllable** (medicine, diet, exercise, etc.)

**Consequences: Now & anticipated**

(Physical, mental, economic, & social losses)