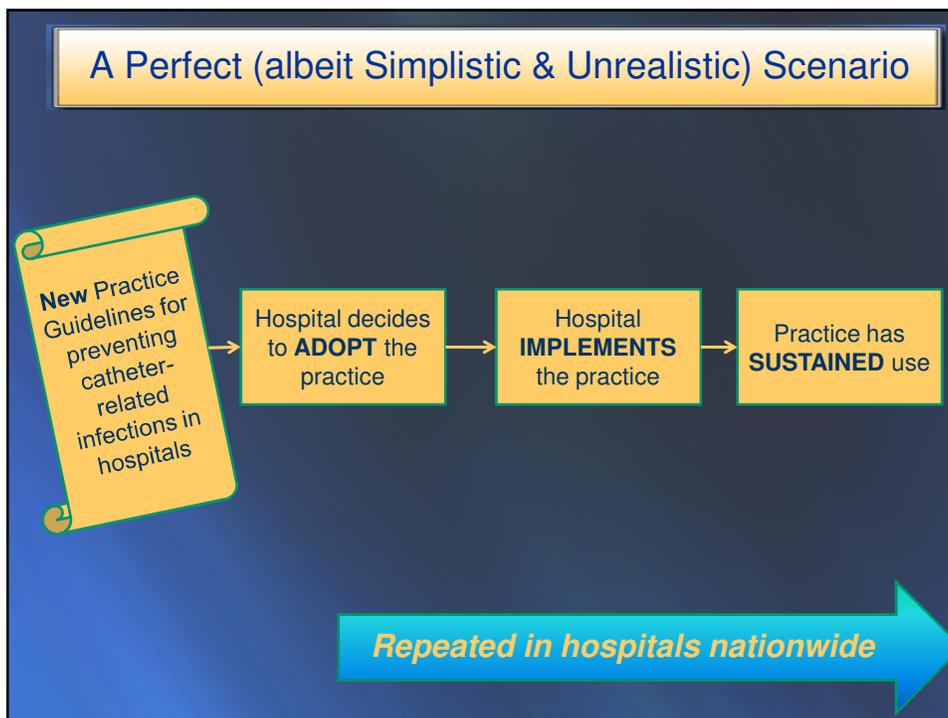
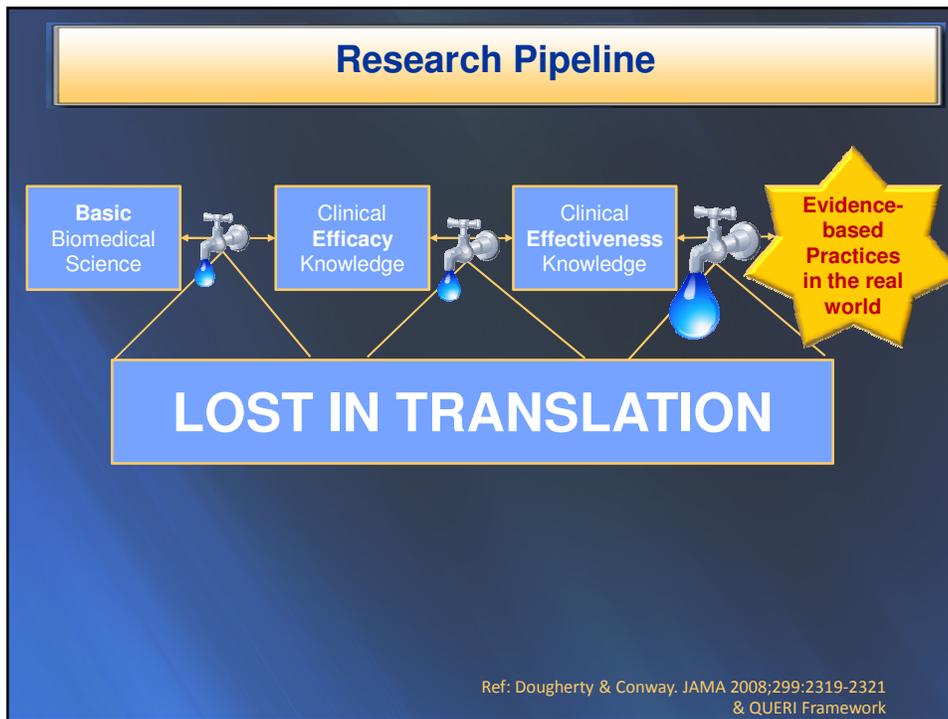


Session II: Theoretical Framework Selection and Intervention Planning

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Role & Value of Theory in Implementation Research

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Outline

- Define key terms
- Value and uses of theory
- Types and levels of relevant theories

Define Key Terms

Implementation Research

- “ the scientific study of methods to promote the uptake of research findings for the purpose of improving quality of care ”

McDonald et al., 2004 Toward a Theoretic Basis for Quality Improvement Interventions in K.G. Shojania et al., Closing the Quality Gap.

- “. . .scientific investigations that support movement of evidence-based, effective health care approaches (e.g., as embodied in guidelines) from the clinical knowledge base into routine use.”

Rubenstein & Pugh, 2006

Implementation Defined

- Efforts designed to get evidence-based practices and related products into use
- Implementation typically follows dissemination and includes:
 - Identification of barriers, facilitators and strategies to reduce, overcome, leverage them
 - Adaptation of the EBP
 - Developing a tailored implementation strategy

Stetler C, Mittman B, Francis J: Overview of the VA Quality Enhancement Research Initiative (QUERI) and QUERI theme articles: QUERI Series. 2008, 3-8

Implementation Strategy

- An integrated set (bundle, package) of implementation interventions
 - Individual interventions, alone, are rarely sufficient to achieve implementation in complex clinical settings

Stetler C, Mittman B, Francis J: Overview of the VA Quality Enhancement Research Initiative (QUERI) and QUERI theme articles: QUERI Series. 2008, 3-8

Implementation Intervention

- A single method or technique to facilitate organizational change and thus, individual-level adoption of evidence-based practice
 - E.g., clinical reminder, opinion leader
- NOT a clinical, system, or health promotion intervention
 - E.g., weight management intervention
- NOT a practice model
 - E.g., Patient-centered medical home

Stetler C, Mittman B, Francis J: Overview of the VA Quality Enhancement Research Initiative (QUERI) and QUERI theme articles: QUERI Series. 2008, 3-8

Value and uses of theory

More Terminology

- **Theory**
 - “A set of logical constructs that jointly offer answers to the questions ‘why’ and ‘how,’ as in ‘why would someone change their behavior in this way?’ and ‘how could this behavior/situation/outcome be changed” (Sales, et al, 2006)
- **Framework**
 - “...identifies a set of variables and relationships that should be examined in order to explain the phenomena...need not specify the direction of relationships or identify critical hypotheses” (Kitson, et al, 2008)
- **Model**
 - Sheds light on causal relationships and seeks to explain the phenomena



Forget the Tower of Babel

- Be clear what you mean
- Be consistent in your own work
- Today, we use the term “theory” to embrace models, frameworks, theory

The power of theory-driven implementation research

Provides a systematic method...

... for identifying, understanding,
operationalizing & evaluating the black
box phenomenon =
“IMPLEMENTATION”

The Case for “Common Sense”

- Using implementation theory does not make it easier to translate evidence into a specific setting
- It is not clear how to design studies to establish and validate theories
- There are so many theories in the literature, it is challenging to discern which to use
- Highly touted approaches (e.g., 6 Sigma, LEAN) seem to work
 - Haven't been proved through methodologically strong studies*

*Vest JR, Gamm LD: A critical review of the research literature on Six Sigma, Lean and StuderGroup's Hardwiring Excellence in the United States: The need to demonstrate and communicate the effectiveness of transformation strategies in healthcare. *Implement Sci* 2009, 4:35

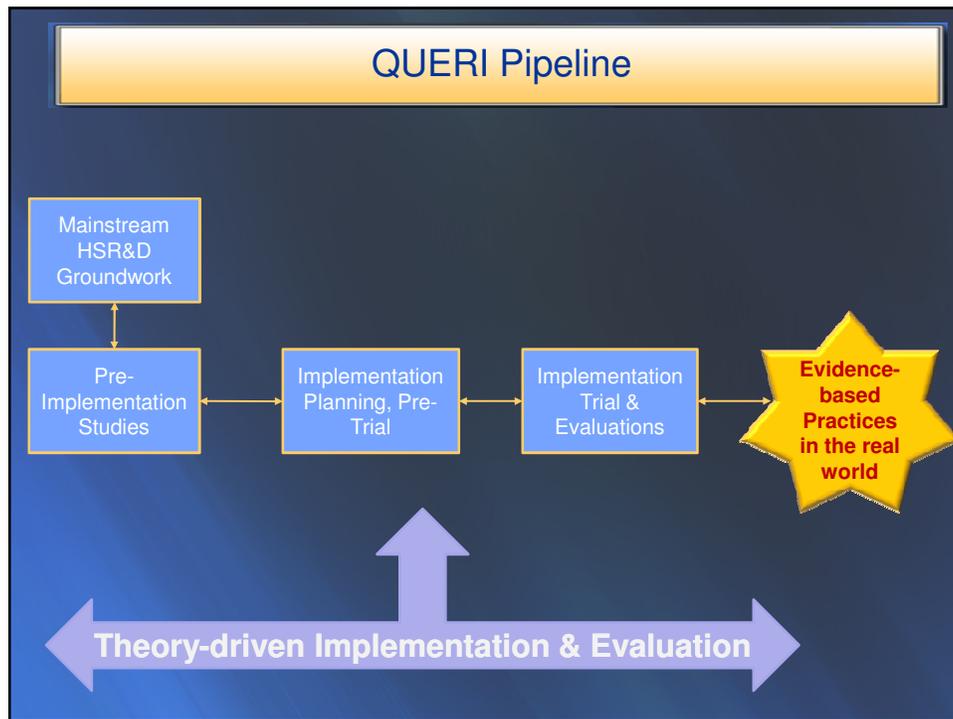
The case against “Common Sense”

- Makes systematic progress harder & increases inefficiency
- Trial & error approaches cannot be replicated
- Reinventing the wheel
- We end up, retrospectively, trying to figure out what went wrong...or right
 - The black box of implementation

Objectives of Implementation Research

- Replicate successful implementation
 - Core components
 - Rationale
- Generalize knowledge about how to implement and sustain interventions
- Navigate complex implementations
- Improve prospects for sustainability

Theory-driven implementation enables accomplishment of these objectives



- ### Use Theory to:
- Ensure the implementation process is based on evidence in the same way as the practices or clinical interventions being implemented
 - Study as well as engage with change in different healthcare settings (e.g., inpatient unit, clinic)
 - Understand role of salient contextual features across settings
 - Conduct focused, rigorous evaluation of the implementation process so we better understand why something did or did not work within in a given setting

Types and levels of relevant theories

Choosing Theory

- Consider nature of the theory
 - Process v. explanatory
 - Context (e.g., policy, organization)
 - Discipline (e.g., social science, psychology)
- Consider level at which it will be applied
 - Individuals
 - Teams
 - Organization
 - System
- Previous findings, experience
- Greatest potential for adding to the knowledge-base

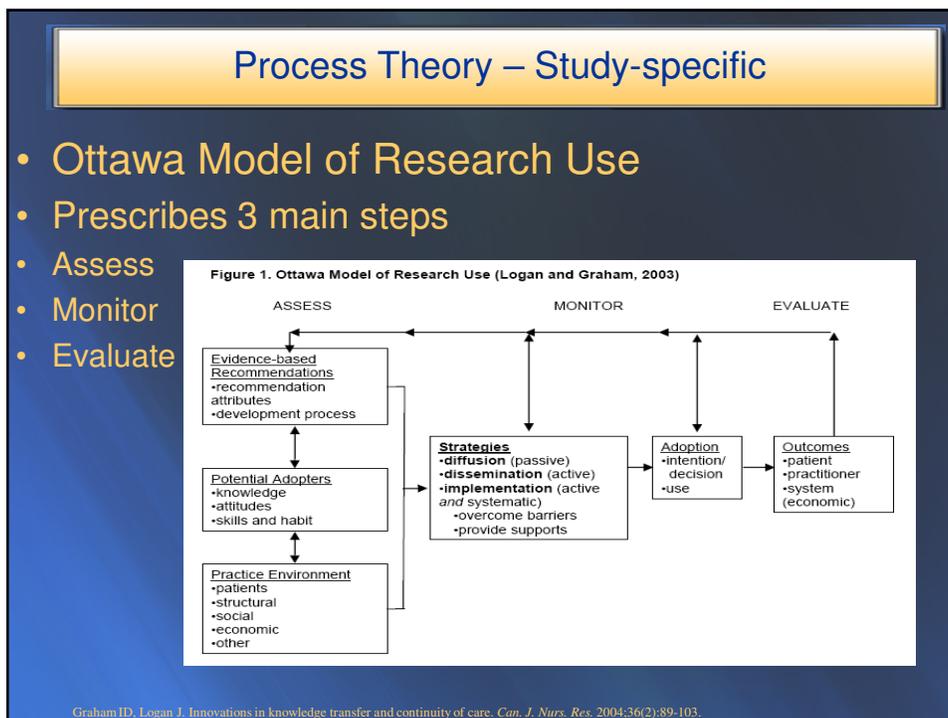
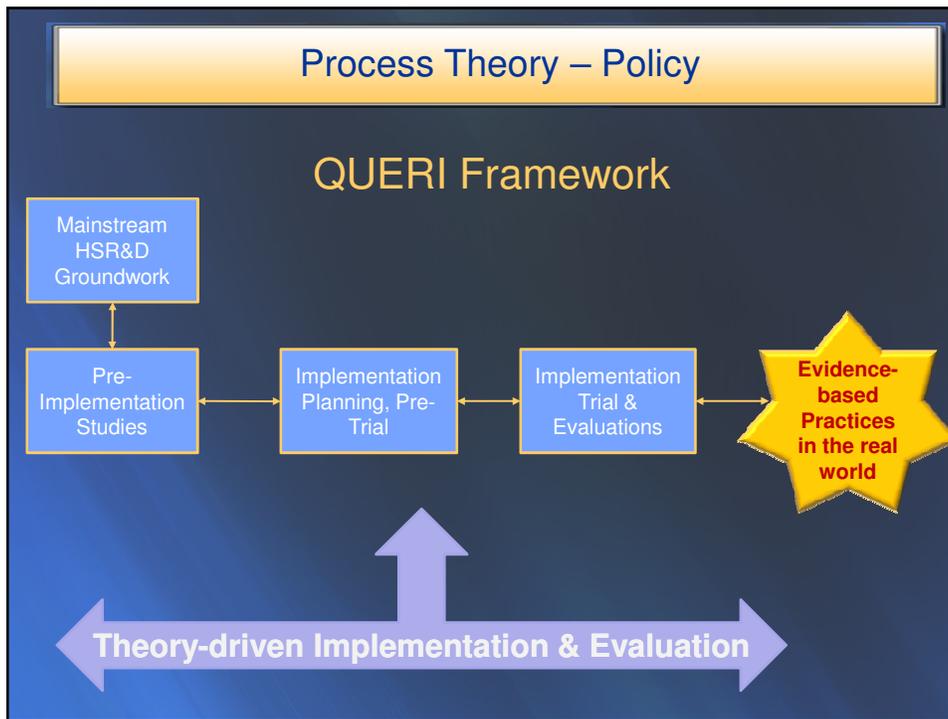
Types of Theories

- Multiple theories often needed
 - Process theories – (aka prescriptive, planned action)
 - How implementation should be planned, organized and scheduled
 - Explanatory theories (aka descriptive, impact)
 - Hypotheses and assumptions about how implementation activities will facilitate a desired change, as well as the facilitators and barriers for success
 - Mixed theories
 - Elements of both

Adapted from: Grol RP, Bosch MC, Hulscher ME, Eccles MP, Wensing M. Planning and studying improvement in patient care: the use of theoretical perspectives. *Milbank Q.* 2007;85(1):93-138.

Process Theories

- Policy level
 - QUERI core 6-step process
- Application
 - Study- or implementation-specific level
 - Organization Transformation



Explanatory Theories – Individual Level

- Motivational Models¹
 - Explain why people *want* to change
- Action Models¹
 - Explain why people *do* change
- Descriptive Stage of change Models
 - Assumptions about the phases individuals go through to achieve desired behavior change²:
Awareness → Insight → Acceptance →
Actual Change → Maintenance

1. Michie, S., Johnston, M., Abraham, C., Lawton, R., Parker, D., & Walker, A. (2005). Making psychological theory useful for implementing evidence based practice: a consensus approach. *Qual Saf Health Care, 14*(1), 26-33.
2. Grol RP, Bosch MC, Hulscher ME, Eccles MP, Wensing M: **Planning and studying improvement in patient care: The use of theoretical perspectives.** *Milbank Q* 2007, 85:93-138.

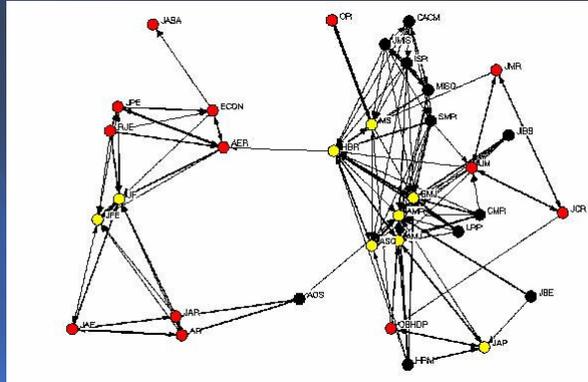
Explanatory Theories – Group

- Social context theories
 - Social Marketing
 - Social learning
 - Communication
 - Social network & influence
 - Teamwork
 - Professional development
 - Leadership

Grol et al. 2007.

Example: Social Network Theory

- Tailor engagement strategy to social networks



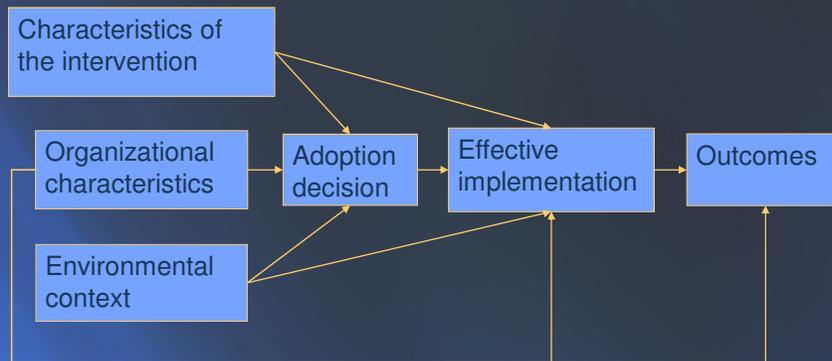
<http://www.istheory.yorku.ca/socialnetworktheory.htm>

Explanatory Theories – Organization & Beyond

- Organizational Context Theories
 - Innovative organizations
 - Quality management
 - Integrated care
 - Complexity
 - Organizational learning
 - Organizational culture
- Political & Economic Context Theories
 - Reimbursement
 - Contracting

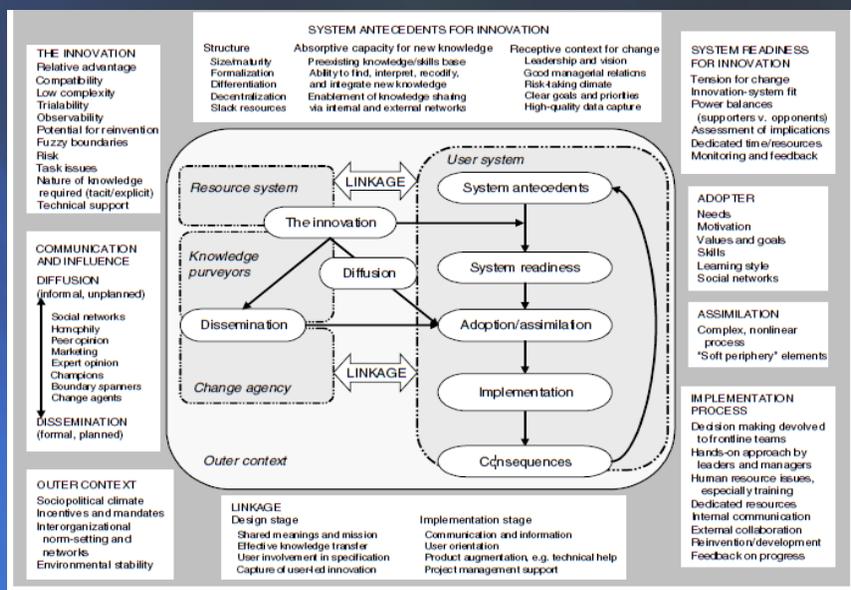
Grol et al, 2007.

Example: Roger's Theory of Diffusion



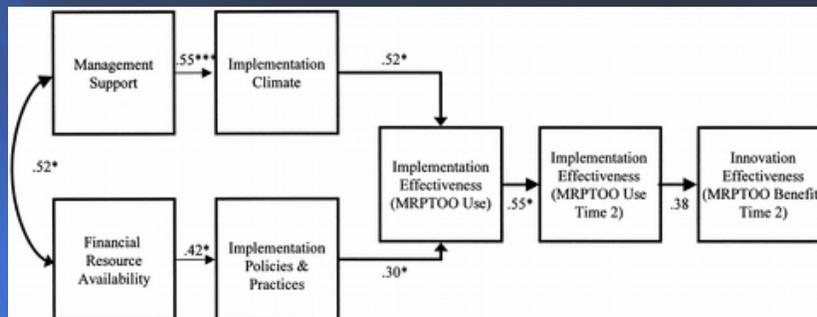
Application to infection prevention practices
 Krein SL, Olmsted RN, Hofer TP, Kowalski C, Forman J, Banaszak-Holl J, et al. Translating infection prevention evidence into practice using quantitative and qualitative research. *Am. J. Infect. Control* 2006;34(8):507-12.

Example: Greenhalgh, et al's Conceptual Model



Example: Implementation Effectiveness Model

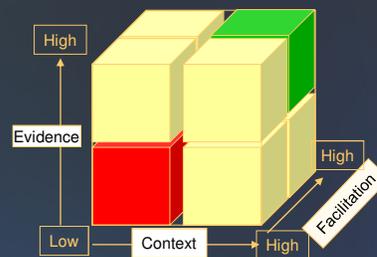
- Quantitative measures of predictors of implementation effectiveness
 - Strength of relationships empirically estimated



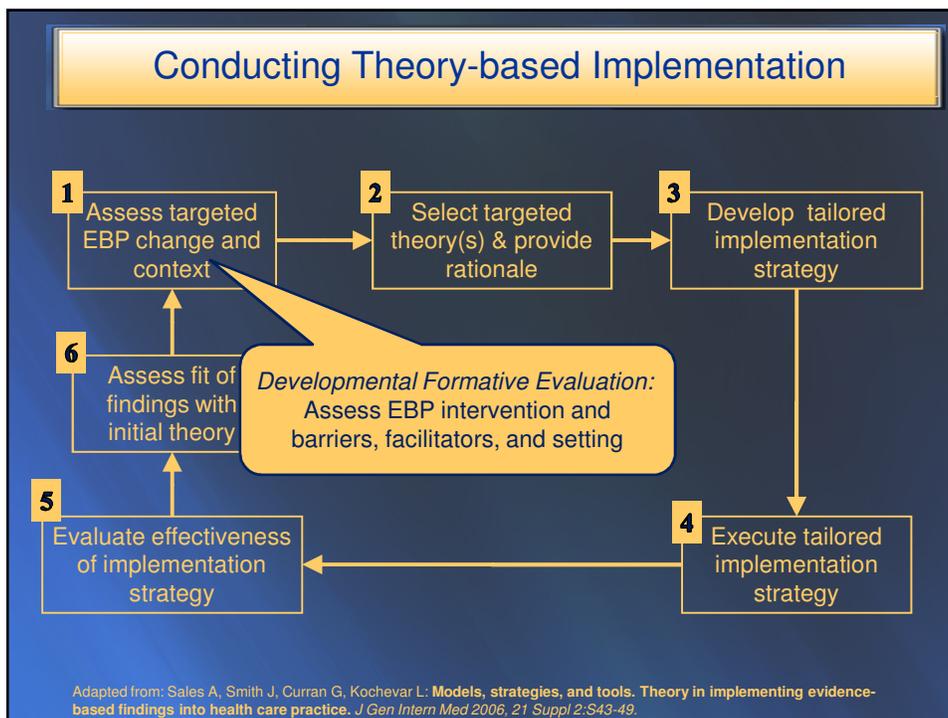
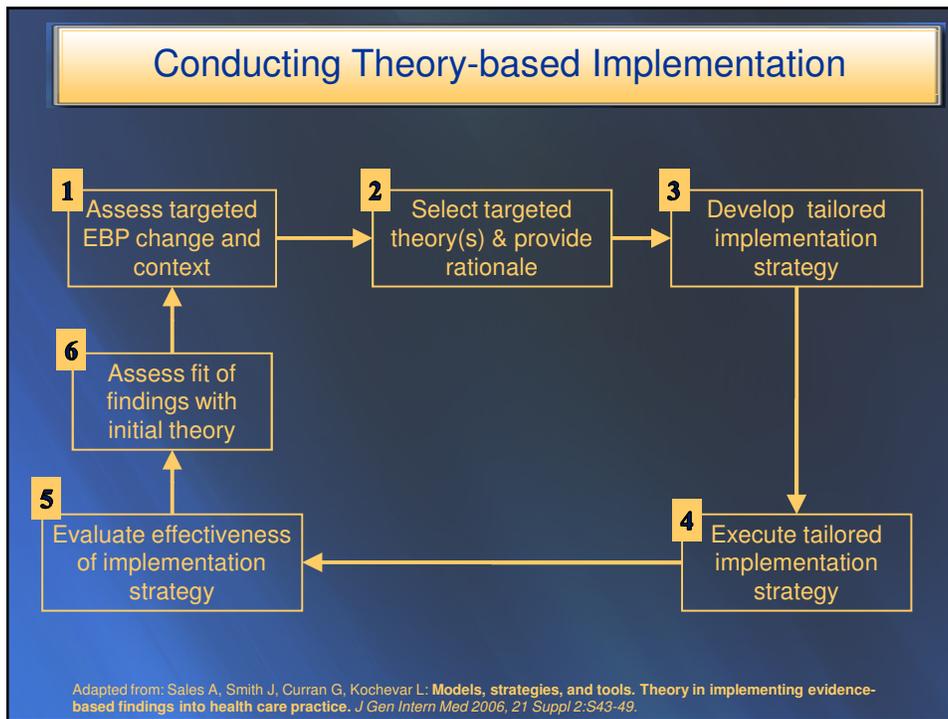
Klein KJ, Conn AB, Sorra JS. Implementing computerized technology: An organizational analysis. *J Appl Psychol.* 2001;86(5):811-824.

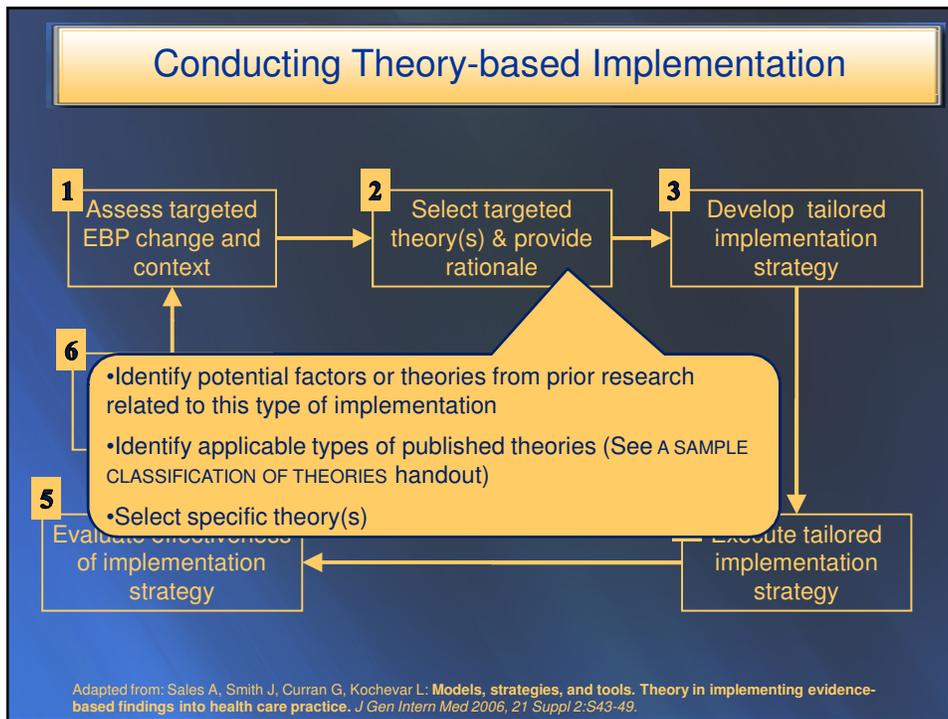
Example Mixed Theory - PARIHS

- Promoting Action on Research Implementation in Health Services (PARIHS)*
 - Successful Implementation =
 - Explanatory: Evidence & Context
 - Process: Facilitation



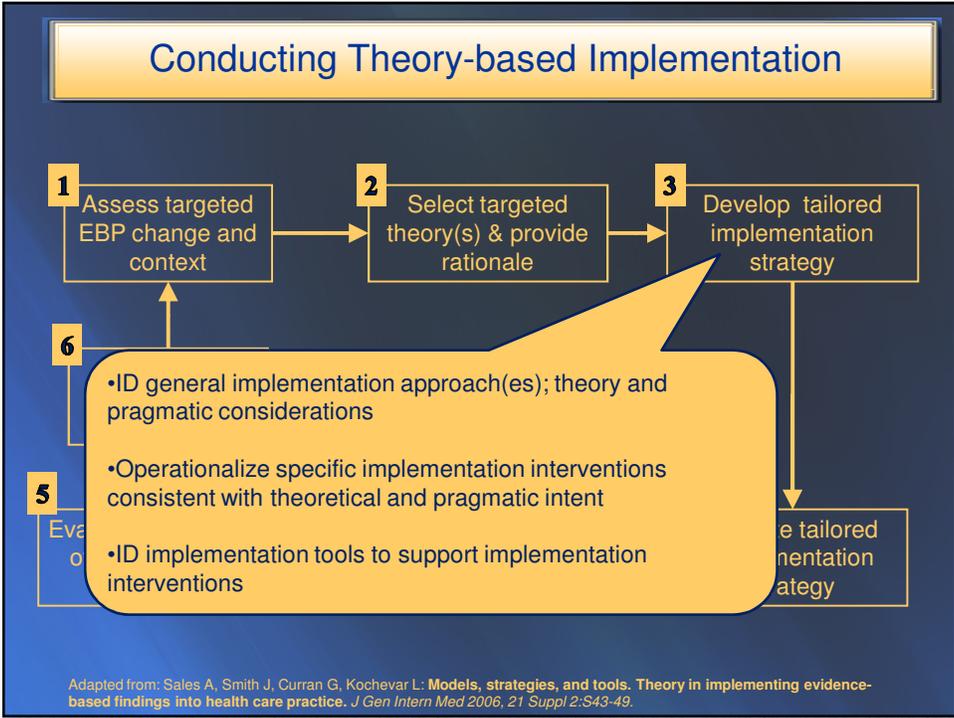
*Kitson A, Harvey G, McCormack B. Enabling the implementation of evidence based practice: a conceptual framework. *Qual Health Care* 1998;7(3):149-58.





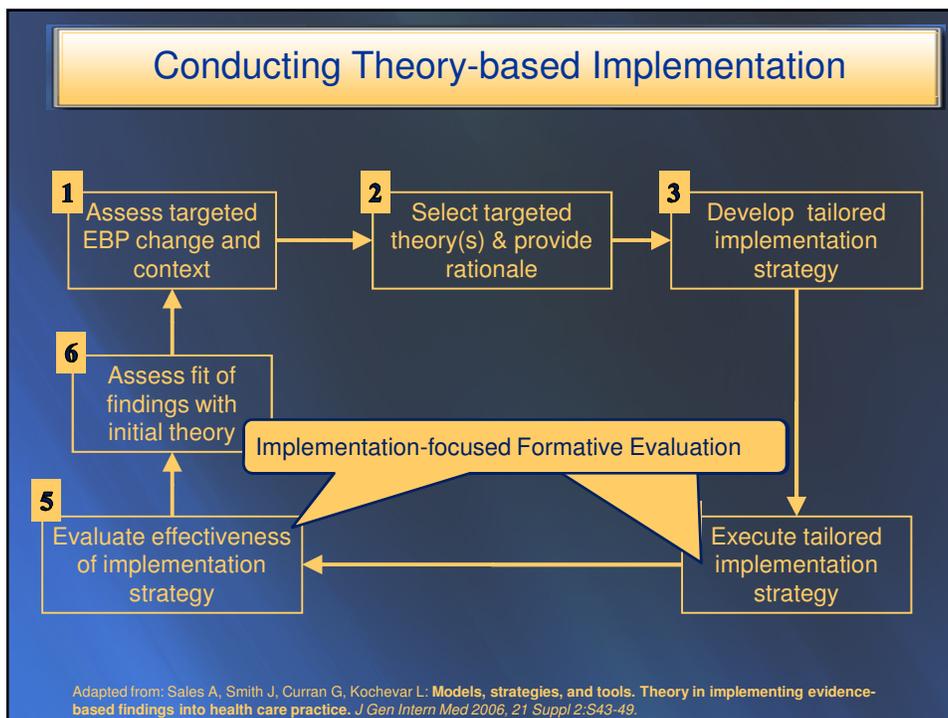
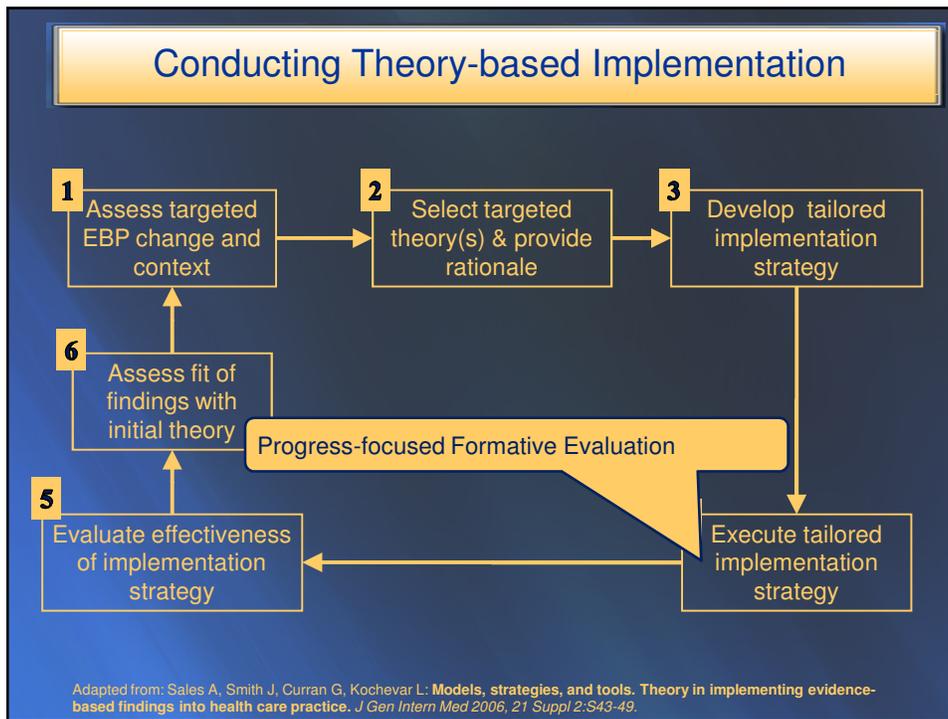
Select Targeted Theories

Types of Theories	Potential Theories	Rationale	Component / Tool
Explanatory Theory	Diffusion of Innovation Theory	<ul style="list-style-type: none"> Use influential local clinician leaders to inform other staff about evidence-based practice Model targeted behaviors Motivate practice change 	
Individual level theories	Social Cognitive Theory Social Influence Theory		
Process theory	PRECEDE Model	<ul style="list-style-type: none"> Monthly reports to provide ongoing feedback to staff on performance to reinforce adherence to guideline recommendations 	
....AND MORE...			

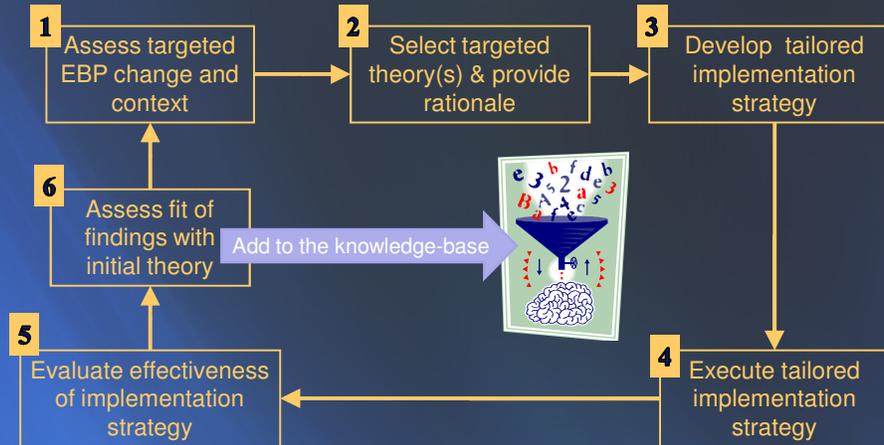


Develop Tailored Implementation Strategies

Types of Theories	Potential Theories	Rationale	Component / Tool
Explanatory Theory Individual level theories	Diffusion of Innovation Theory Social Cognitive Theory Social Influence Theory	<ul style="list-style-type: none"> • Use influential local clinician leaders to inform other staff about evidence-based practice • Model targeted behaviors • Motivate practice change 	Clinical opinion leader
Process theory	PRECEDE Model	<ul style="list-style-type: none"> • Monthly reports to provide ongoing feedback to staff on performance to reinforce adherence to guideline recommendations 	Feedback performance reports
....AND MORE...			



Conducting Theory-based Implementation



Adapted from: Sales A, Smith J, Curran G, Kochevar L: **Models, strategies, and tools. Theory in implementing evidence-based findings into health care practice.** *J Gen Intern Med* 2006, 21 Suppl 2:S43-49.

Synthesizing Findings Across Studies

- **Consolidated Framework for Implementation Research (CFIR)**
 - Comprehensive taxonomy and definitions for constructs that influence implementation success
 - Builds on theories already in the literature
 - Provides foundation on which to compare findings across studies and settings
 - Can be used to build, affirm, or evaluate theory(s)

Damschroder, L., et al., *Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science.* *Implement Sci.* 2009, 4(1): p. 50.