



Using Implementation Science to Improve Care on the Frontlines

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Conflict of Interest

No conflicts of interest to disclose.

Greetings from the University of Michigan (now Michigan Medicine)!



Objectives

1. Be able to articulate key concepts from multiple implementation models.
2. Be able to identify effective and ineffective strategies for implementation.

Definition of Implementation

The communication and subsequent use of information or knowledge, into a culture or setting.

Implementation AKA...

Translation
Knowledge Translation
Research Utilization
Diffusion of Innovation
Research Adoption
Adoption of EBP

Implementation Models

- Diffusion of Innovations (Rogers)
- Translating Research into Practice (TRIP) (Titler & Everett)
- Promoting Action on Research Implementation in Health Services (PARIHS) Framework



Diffusion of Innovations

ROGERS, E. (2003). DIFFUSION OF INNOVATIONS, 5TH ED. FREE PRESS, NEW YORK, NY.

4 Components in Diffusion of Innovations

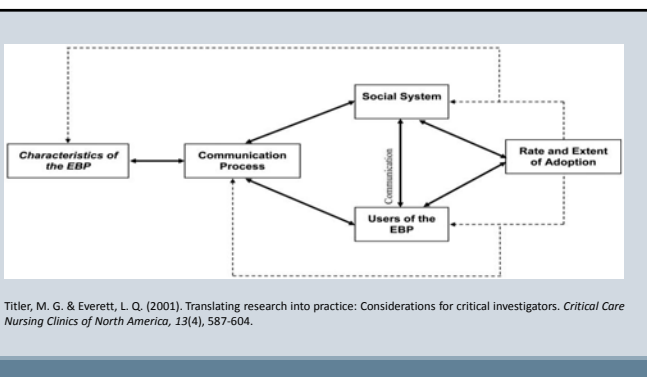
1. The Innovation
2. Communication Channels
3. Time
4. Social System



Each of the four components has greater detail as it relates to implementation

Titler & Everett: Translating Research into Practice (TRIP) Model

TITLER, M. G. & EVERETT, L. Q. (2001). TRANSLATING RESEARCH INTO PRACTICE: CONSIDERATIONS FOR CRITICAL INVESTIGATORS. *CRITICAL CARE NURSING CLINICS OF NORTH AMERICA*, 13(4), 587-604.



Titler & Everett TRIP Model

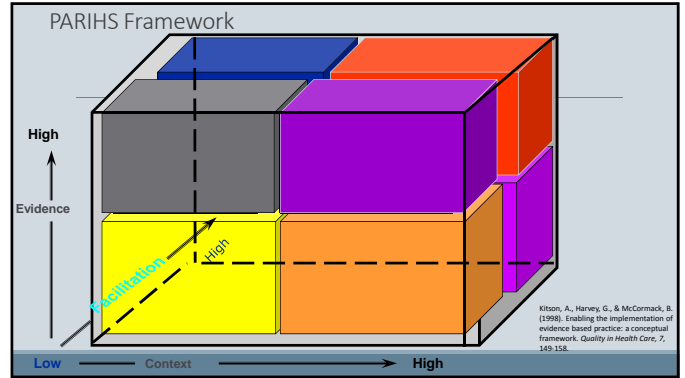
Roger's work serves as a foundation for this model

4 Component Influence the Rate of Adoption

1. Characteristics of the EB Innovation
2. Communication Process
3. Social System
4. Users of the Innovation

Promoting Action on Research Implementation in Health Services (PARIHS) Framework

KITSON, A., HARVEY, G., & MCCORMACK, B. (1998). ENABLING THE IMPLEMENTATION OF EVIDENCE BASED PRACTICE: A CONCEPTUAL FRAMEWORK. *QUALITY IN HEALTH CARE*, 7, 149-158.



Kitson, A., Harvey, G., & McCormack, B. (1998). Enabling the implementation of evidence based practice: a conceptual framework. *Quality in Health Care*, 7, 149-158.

Promoting Action on Research Implementation in Health Services (PARIHS) Framework

1. **Evidence:** The level and nature of the evidence.
2. **Context:** The setting in which practice takes place.
 - Includes the culture of the setting, the leadership, end users in the setting
3. **Facilitation:** Making things easier for a person or group of people. In this case, easing adoption of evidence into practice.

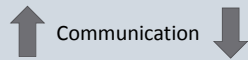
Key Components Across Models



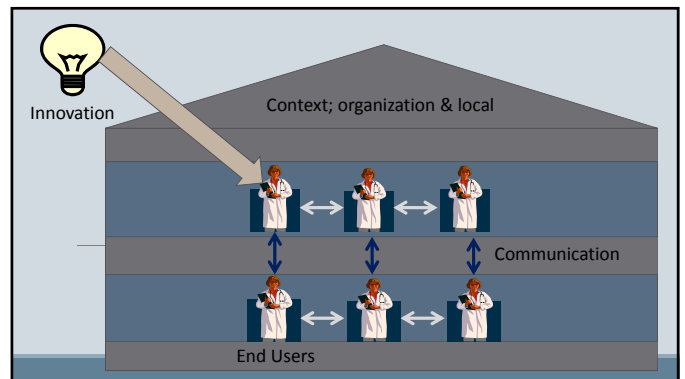
Components Across Models

Innovation (EBP)

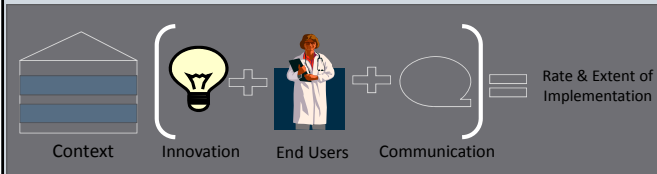
Users of the innovation



Context; structure/social system that the users operate within



The interactions among the four key components of implementation are what determines the rate and extent of adoption.



Implementation Science

What is Implementation Science?

Findings generated from implementation research.



Implementation Research



“The scientific investigation of methods and variables that affect adoption of evidence-based health care practices by individual practitioners and health care systems to improve clinical and operational decision-making” (p.38).

Titler, M.G. (2004). Methods in translation science. *Worldviews on Evidence-Based Nursing*, 1, 38-48.

Purpose of Implementation Research

- The primary focus of implementation research is to understand how to improve, increase, or more rapidly get research into practice.
- The focus is NOT to test the effectiveness of a treatment.

Common Outcomes Studied in Implementation Research

- Time/rate of implementation
- Adherence to evidence-based protocol (ie. fidelity)
- Extent/penetration of implementation
- Sustainability
- *Patient outcomes

Common “Interventions” Studied in Implementation Research

- Facilitators and barriers to implementation
- Usually multifaceted
- Communication or dissemination methods (e.g. word of mouth, written reminders, etc)
- “Packaging” of the innovation (e.g. marketing, building into systems, etc)
- Use of people (e.g. facilitators) to aid in the implementation

End Users Often Studied



- Attitudes/beliefs about evidence-based practice and the innovation itself
- Knowledge
- Self-reported behavior change

Measuring Context

- Many studies try to examine this concept
- Messy subject
- Difficult to measure



What does the Research Show?

EFFECTIVE AND INEFFECTIVE STRATEGIES FOR IMPLEMENTATION

Ineffective: One Intervention Alone

- No one, magic bullet
- More success when multiple strategies are used

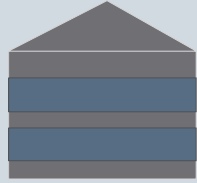


Examples of the Magic Bullet Approach



- E-mail
- Policy change
- Presentation
- Flyer/Newsletter

Context



Hard to Intervene on Context



Effective: Strong Leadership

BEHAVIORS OBSERVED:

- Rounding
- Over-communicating and listening
- Translating to local context
- Recognizing positive behaviors in staff
- Holding people accountable



Ineffective: Poor Leadership

BEHAVIORS OBSERVED:

- Not coming out of office
- Punitive approach
- Not understanding the practice change



Effective: Local Change Champions

- Change champions are end users who help roll-out a change locally.
- They are more effective when they are:
 - Within the discipline (and doing the work of the end users)
 - Respected by colleagues (ie. their opinion is valued)
- One of the most effective implementation strategies



The Innovation



Characteristics or Attributes of the Innovation

1. Relative advantage- The degree to which an innovation is better than the idea it is replacing.
2. Compatibility- Extent to which the innovation fits with current system, processes, and adopters.
3. Complexity- How difficult is the innovation to understand and use?
4. Trialability- The extent to which the innovation can be tried out before fully adopting.
5. Observability- Extent to which the end results of the innovation are visible.
6. Reinvention- Ability for the innovation to be modified.

Rogers, E. (2003). Diffusion of Innovations, 5th Ed. Free Press, New York, NY.

Two Most Important Innovation Attributes

- 1) Relative Advantage
 - How is this change better than what we had?
- 2) Compatibility
 - How well does this fit within our current structures and processes?

Effective: Built into Existing Structures/Processes

- The degree to which existing structures or processes can be used will help it feel like it's not a new thing.

Ineffective: Physical Materials Unavailable

- Lack of equipment needed to implement an innovation is a common barrier

Examples:

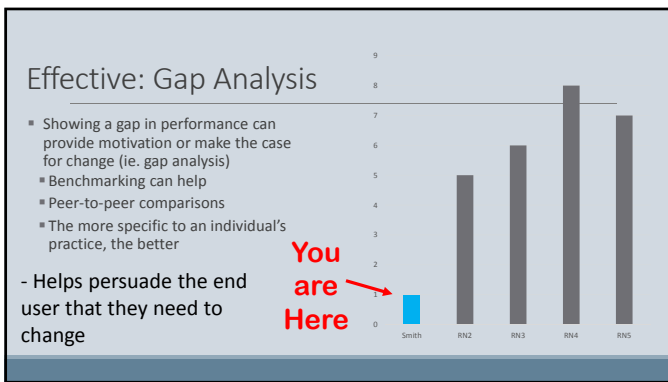
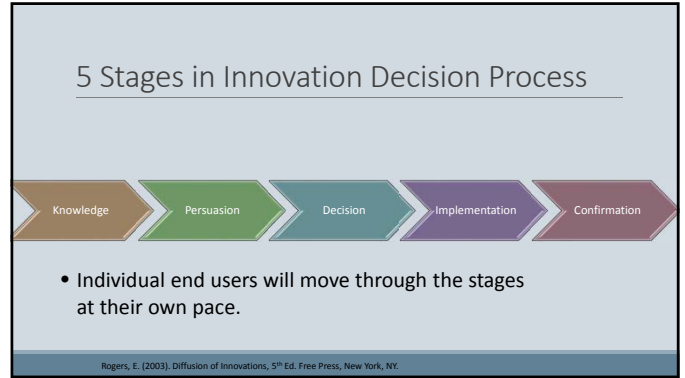
- Availability of hand sanitizers when needed
- Bladder scanners to avoid indwelling urinary catheters
- Kits (central line, foley, etc) that do not support the sterile technique

Ineffective: Relying on Memory



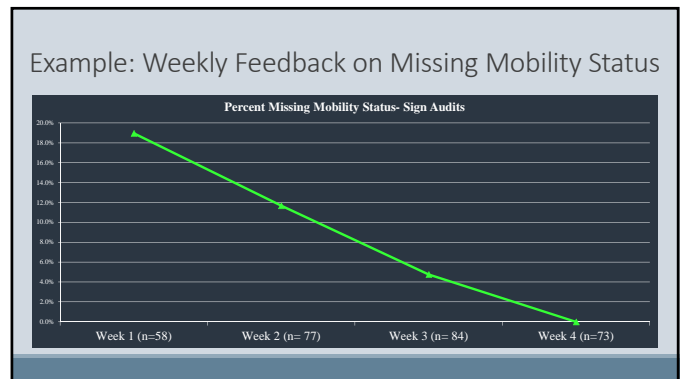
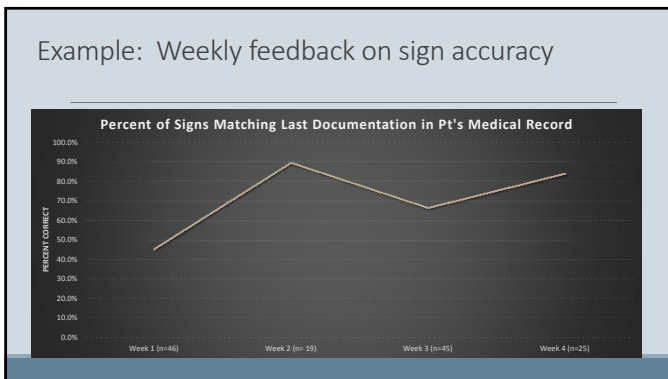
Possibly Effective: Marketing Strategies

- Use of logos
- Color schemes
- Items that will visually appeal to audience and be immediately recognizable



Effective: Audit and Feedback

- After implementation has started, showing people progress and/or how far left to.
- One of the most effective strategies in implementation.



Sustainability

Sustainability

Many elements that increase implementation, will also positively impact sustainability.



Additional Strategies for Sustainability

- Adoption of the EB guideline by a larger audience (Nursing EBS)
- Build into documentation systems
- Build into on-going competencies (e.g. every 2 years)
- Build into orientation
- Build into individual evaluations
- Build into on-going quality improvement monitoring & efforts
- Notice the "Build Into"- utilize existing structures and processes.

Summary

- Context, communication, the innovation and the end users are key components to consider when implementing a practice change.
- Context is the most important, and most challenging component to influence.
- Having a multi-faceted strategy for implementation will be more effective than one, single strategy.
- Local change champions, conducting a gap analysis, and audit and feedback are three of the most effective strategies to increase the rate and/or extent of implementation.

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