Dissemination and Implementation Frameworks: A User’s Guide (Don’t Fear the Framework)
Objectives

• Describe the range of dissemination and implementation frameworks
  • Explain differences between different types of frameworks
  • Describe criteria for selecting one or more specific frameworks for use in an implementation effort
  • Describe how to apply each of the following types of frameworks in an implementation study
    • Process
    • Determinant
    • Evaluation
There are a lot of frameworks

- Most recent systematic review identified 61 different models or frameworks for dissemination and implementation

- Previous review (2006) found 41
  - Several efforts to consolidate frameworks
    - Damschroder LJ et al. 2009
    - Francis et al. 2012
    - Flottorp et al. 2013
      https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-8-35 The Tailored Implementation in Chronic Disease (TICD) checklist
Exponential growth in publications

• Are all frameworks equally helpful?
  • It probably depends on goals, specificity of what is being implemented or disseminated
  • Depends on whether the focus is dissemination or implementation
  • Some frameworks take you further on the path to achieving implementation than others
Frameworks and models provide important guidance for doing implementation

- Process frameworks
  - Describing
  - Guiding the process
- Determinant frameworks
  - Understanding
  - Explaining what influences implementation
- Evaluation frameworks
  - How well the process worked

http://www.implementationscience.com/content/10/1/53
Process frameworks

• Describe or guide process of implementation
  • Often steps in a cycle

http://ktclearinghouse.ca/knowledgebase/knowledgetoaction
Evaluation frameworks

- Specify aspects of implementation for evaluation
- How do you measure the success of implementation?
Determinants frameworks

- Specify types/classes/domains of factors that influence the success of implementation

- Damschroder LJ et al. 2009

- Francis et al. 2012

- Flottorp et al. 2013
  [link](https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-8-35) : The Tailored Implementation in Chronic Disease (TICD) checklist
How to use these three types of frameworks

• Process
  • Planning your work

• Evaluation
  • Did your efforts work?

• Determinants
  • Figure out what you need to do
  • Design one or more implementation interventions
Systematic approaches are important

Step 1: Assess practice gaps using current knowledge and current practice

Step 2: Using current knowledge, assess for evidence based innovations to reduce the practice gap

Step 3: Assess barriers and/or facilitators related to implementing the evidence based innovation

Step 4: Link barriers to evidence-based change techniques

Step 5: Design implementation intervention to overcome barriers

Re-evaluate and go through steps again if necessary
Focusing on determinants

• Step 3
  • Assess barriers and facilitators to implementing your innovation/evidence based practice/policy/program
    • Why?
Reasons to assess barriers and facilitators (determinants of implementation success)

• To overcome them
  • Planning
  • Awareness

• To study them
  • We have plenty of catalogs
    • Listing them is not necessarily all that helpful
  • Determinants frameworks are catalogs of barriers and facilitators
    • Organized into some kind of taxonomy or system for classifying them
CFIR

- Five domains
  - Outer Setting
  - Inner Setting
  - Intervention Characteristics
  - Characteristics of Individuals
  - Implementation Process

- 26 main constructs
- 13 sub-constructs

www.cfirguide.org
TDF

- Fourteen domains
  - Knowledge
  - Skills
  - Social/professional role identity
  - Beliefs about capabilities
  - Optimism
  - Beliefs about consequences
  - Reinforcement
  - Intentions
  - Goals
  - Memory, attention and decision processes
  - Environmental context and resources
  - Social influences
  - Emotion
  - Behavioral regulation
- 84 constructs

https://www.biomedcentral.com/collections/tdf
TICD

- Seven domains
  - Guideline factors
  - Individual health professional factors
  - Patient factors
  - Professional interactions
  - Incentives and resources
  - Capacity for organizational change
  - Social, political and legal factors
- 37 major constructs
- 26 sub-constructs
So how do you use these?

• Assessing barriers and facilitators
  • Conduct interviews guided by your selected framework
  • Analyze interviews using the same (possibly additional) framework(s)
  • Evaluate the types of barriers and/or facilitators that need to be addressed
    • Prioritize— which are most important?
    • Assess feasibility— which can be overcome, and how?
  • If feasible, link to implementation strategies and/or behavior change techniques
Designing interventions

- Current leading edge in implementation research
  - Linking barriers to techniques (at individual level)
  - Linking barriers to strategies (at higher level)
  - Designing interventions from strategies (broad) and techniques (micro) as indicated
Behavior change techniques

- 93 techniques for changing behavior
  - Operate through specific psychological or social theory
    - Emphasize specific behavior within practices
  - Generally validated through both theory and empirical test
  - Linked to Theoretical Domains Framework
- Examples
  - Self-monitoring of behavior (linked to Motivation and Goals)
  - Instruction on how to perform a behavior (linked to Knowledge)

Implementation strategies

• 73 broader, more macro approaches
  • Quite variable in level
  • Linkage to 39 Consolidated Framework for Implementation Research constructs currently in progress
• Example
  • Audit and provide feedback (linked to Goals and Feedback)
  • Mandate change (linked to Leadership Engagement)

Example: Implementing evidence based practices in an ICU
How do we get

- From here
- To here
Problem: Patients are on mechanical ventilation for a long time

- Longer than other comparable units
- Long term outcomes are poor
  - High mortality
  - Loss of functional status
  - Long term impairment
- ABCDE evidence based bundle for improvement
  - Spontaneous Awakening trials
  - Spontaneous Breathing trials
  - Coordination of these two
  - Delirium assessment
  - Early mobilization
Going from barrier assessment to behavior change technique (using TDF)

- Barrier: Nurses are not sure they have the skills to handle initial attempts at spontaneous awakening
  - Barriers: Skills, self-efficacy, action planning
  - Behavior change techniques:
    - Goal/target specified: behavior or outcome
    - Monitoring/self-monitoring
    - Graded tasks
    - Social processes of encouragement, support
    - Prompts, triggers, cues
More barriers to implementation

• Barrier: Providers are unaware of their actual performance
  • Lack of motivation/goals
  • Behavior change techniques:
    • Goal/target specification
    • Contract
    • Feedback
    • Rewards and incentives
    • Persuasive communication
    • Information about behavior and outcomes
Consider possible strategies (using CFIR)

• What are the overall goals of the hospital?
  • How does this ICU fit into the hospital as a whole?
• Key issues:
  • Staffing
  • Continuity of care
  • Morale
  • Previous attempts to change practice
  • Resources
  • Leadership support
  • Organizational readiness to change
Designing an intervention

• Most relevant issues are self-efficacy on the part of nurses, lack of performance awareness by all staff
  • Intervention could include
    • Feedback component: Audit with feedback
      • Ensure that people know what the current status is and what patient outcomes are
    • Specifying the goal or target for improvement: Goal setting or action planning
      • Ensuring they know how they are doing in meeting that target
    • Social processes of encouragement and support
    • Leadership engagement and coaching: Mandating change
Systematic approaches are still important

- Step 1: Assess practice gaps using current knowledge and current practice
- Step 2: Using current knowledge, assess for evidence-based innovations to reduce the practice gap
- Step 3: Assess barriers and/or facilitators related to implementing the evidence-based innovation
- Step 4: Link barriers to evidence-based change techniques
- Step 5: Design implementation intervention to overcome barriers

Re-evaluate and go through steps again if necessary
Don’t forget process and evaluation

• Process frameworks offer guidance in addition to the very specific use of determinants frameworks in design of implementation interventions

• Evaluation is critical
  • Did it work?
  • Evaluation frameworks are not study designs
    • Generally provide guidance about what to measure
    • Assessing success of implementation
Take home messages

• We do have a lot of frameworks
  • Understanding the type and how to apply it helps to reduce the complexity of the large number of frameworks
  • Thinking about what you are trying to accomplish, and using appropriate frameworks for the purpose, should demystify framework use
    • You may well want to use as many as 3 different frameworks in a project/proposal

• Frameworks are only useful if they’re used
  • And more useful if used appropriately, not randomly
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General inquiries: HILS-PHD-MS@umich.edu
Questions?

• Contact information: 
  • salesann@umich.edu