



Learning Health Sciences
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Dissemination and Implementation Frameworks: A User's Guide (Don't Fear the Framework)

Objectives

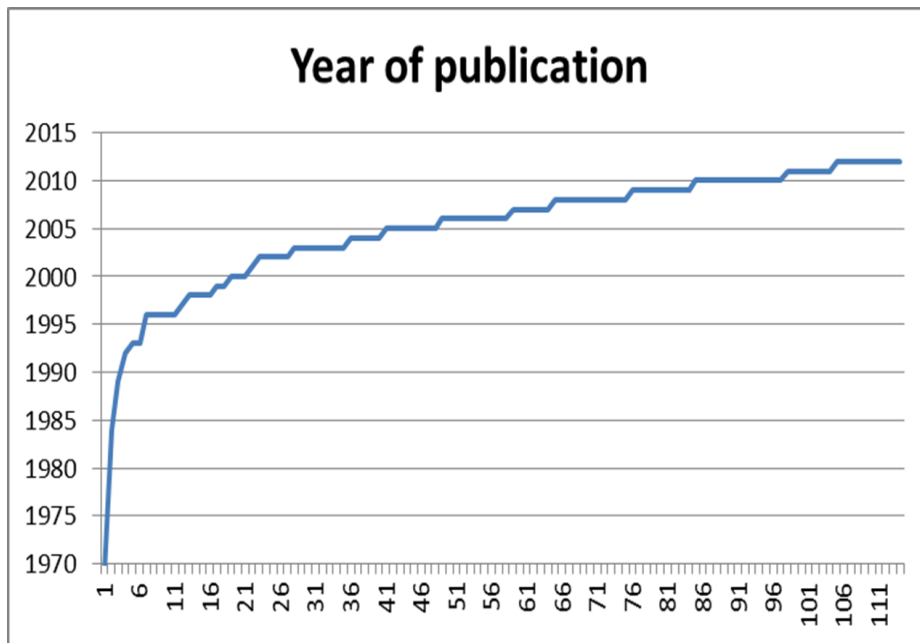
- Describe the range of dissemination and implementation frameworks
 - Explain differences between different types of frameworks
 - Describe criteria for selecting one or more specific frameworks for use in an implementation effort
 - Describe how to apply each of the following types of frameworks in 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
 - Tabak RG, Khoong EC, Chambers DA, Brownson RC. Bridging research and practice: models for dissemination and implementation research. Am J Prev Med. 2012 Sep;43(3):337-50. doi: 10.1016/j.amepre.2012.05.024. Review. PubMed PMID: 22898128; PubMed Central PMCID: PMC3592983
- Previous review (2006) found 41
 - Several efforts to consolidate frameworks
 - Damschroder LJ et al. 2009 <https://implementationscience.biomedcentral.com/article/s/10.1186/1748-5908-4-50> The Consolidated Framework for Implementation Research (CFIR)
 - Francis et al. 2012 <https://implementationscience.biomedcentral.com/article/s/10.1186/1748-5908-7-35> The Theoretical Domains Framework (TDF)
 - Flottorp et al. 2013 <https://implementationscience.biomedcentral.com/article/s/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

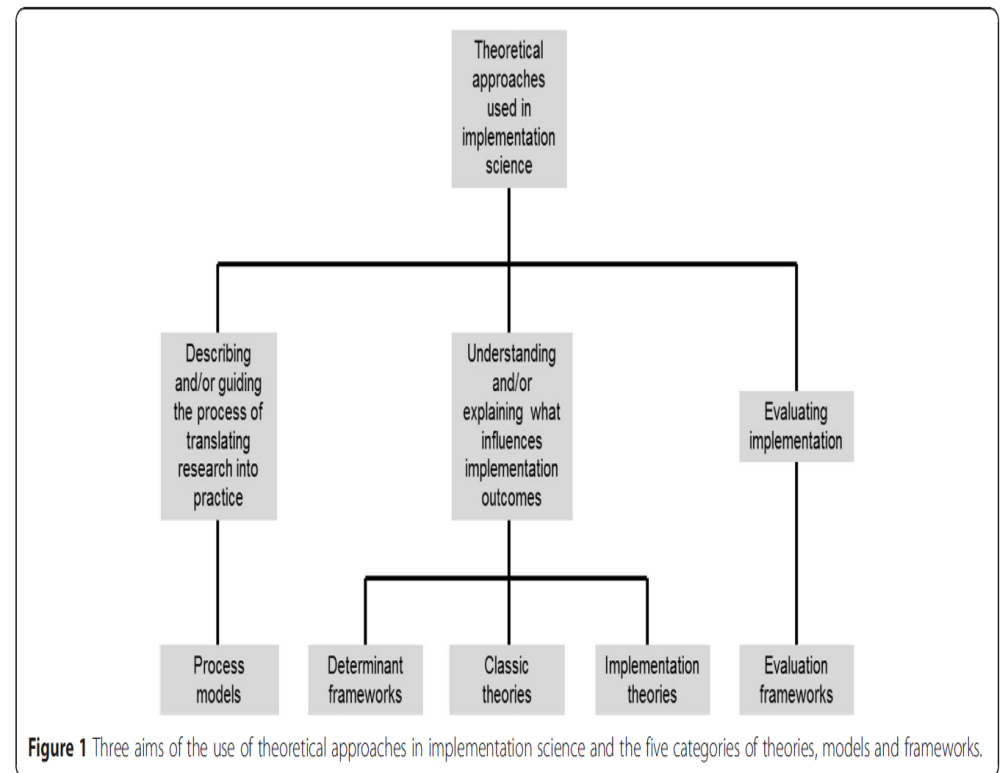


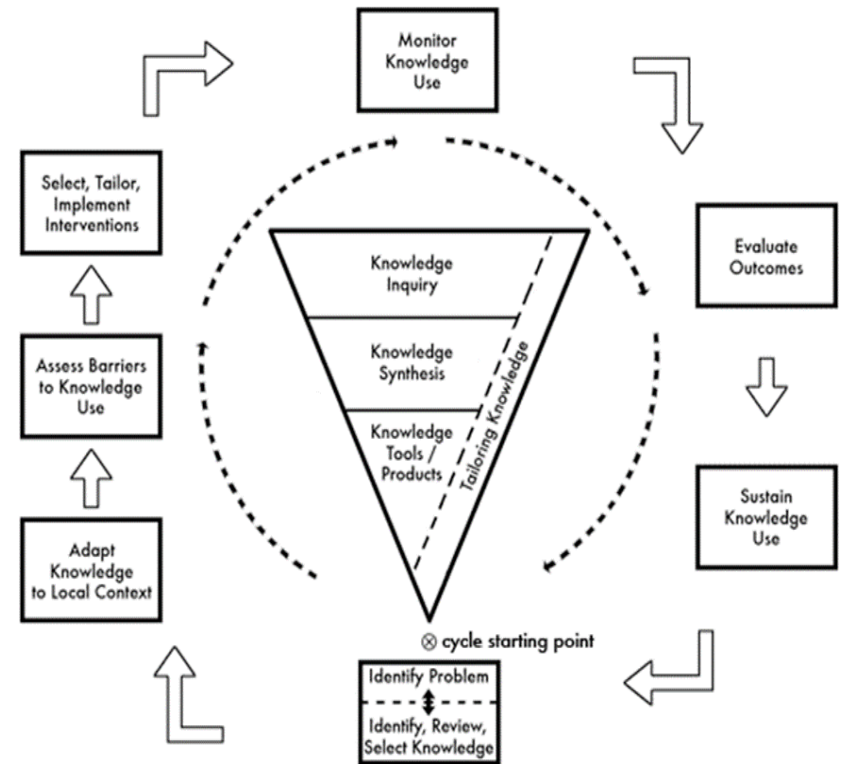
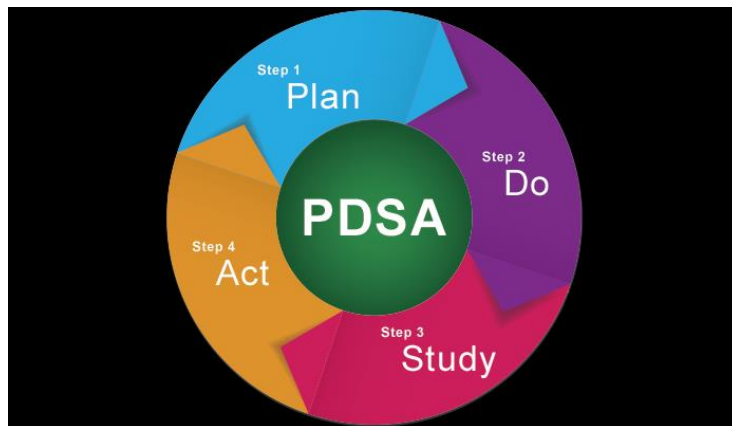
Figure 1 Three aims of the use of theoretical approaches in implementation science and the five categories of theories, models and frameworks.

Nilsen, *Implementation Science* 2015

<http://www.implementationscience.com/content/10/1/53>

Process frameworks

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

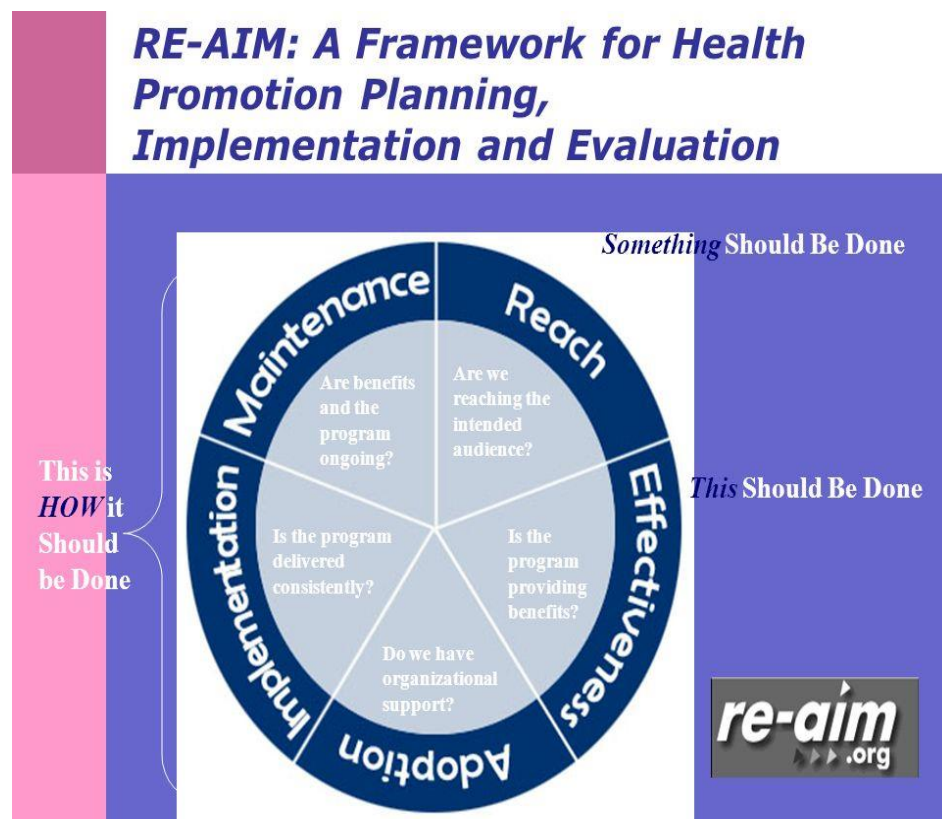


<http://ktclearinghouse.ca/knowledgebase/knowledgetoaction>

Evaluation frameworks

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

RE-AIM: A Framework for Health Promotion Planning, Implementation and Evaluation



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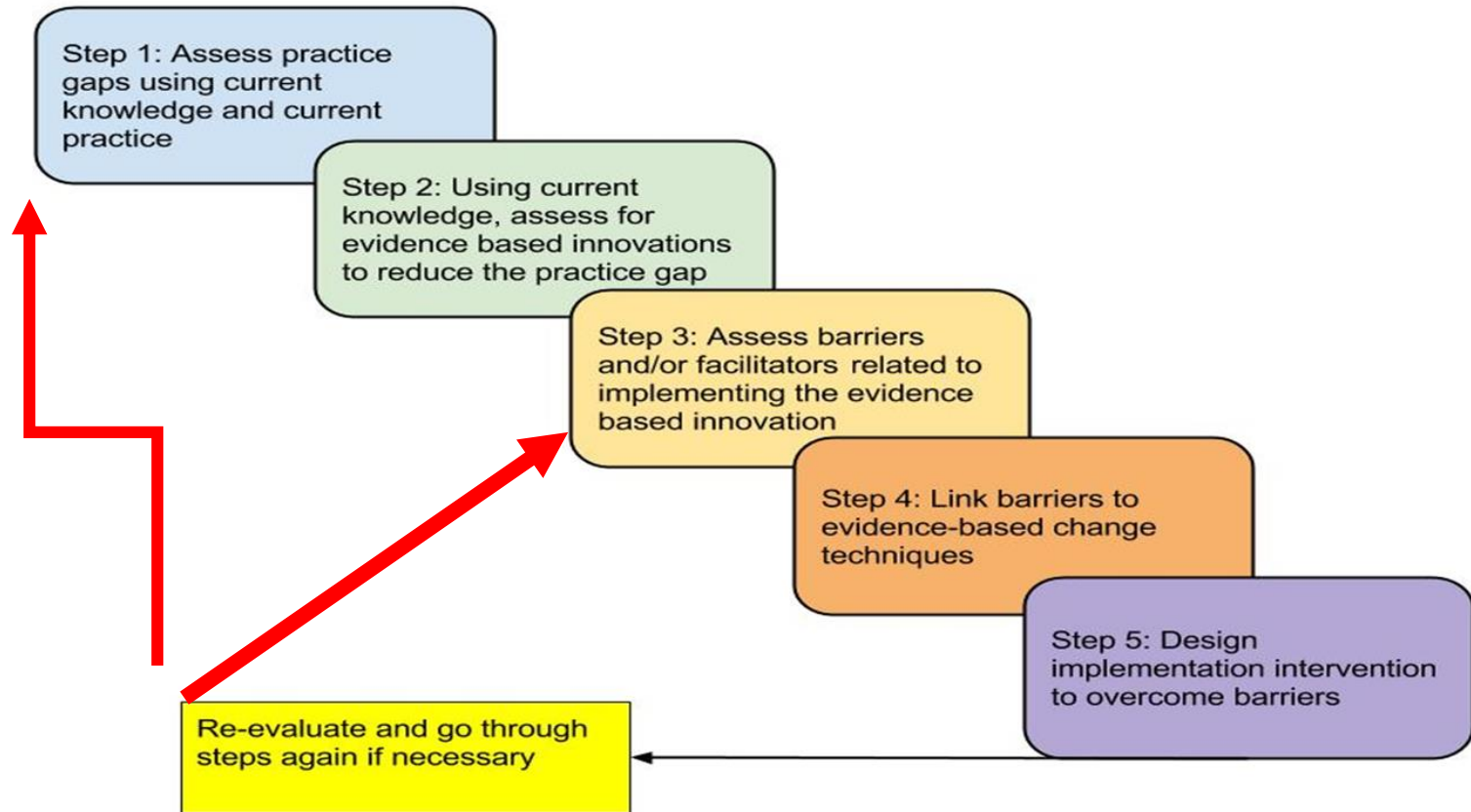
Determinants frameworks

- Specify types/classes/domains of factors that influence the success of implementation
- Damschroder LJ et al. 2009 <https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-4-50> The Consolidated Framework for Implementation Research (CFIR)
- Francis et al. 2012 <https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-7-35> The Theoretical Domains Framework (TDF)
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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



Focusing on determinants

- Step 3
 - Assess barriers and facilitators to implementing your innovation/evidence based practice/policy/program
 - Why?

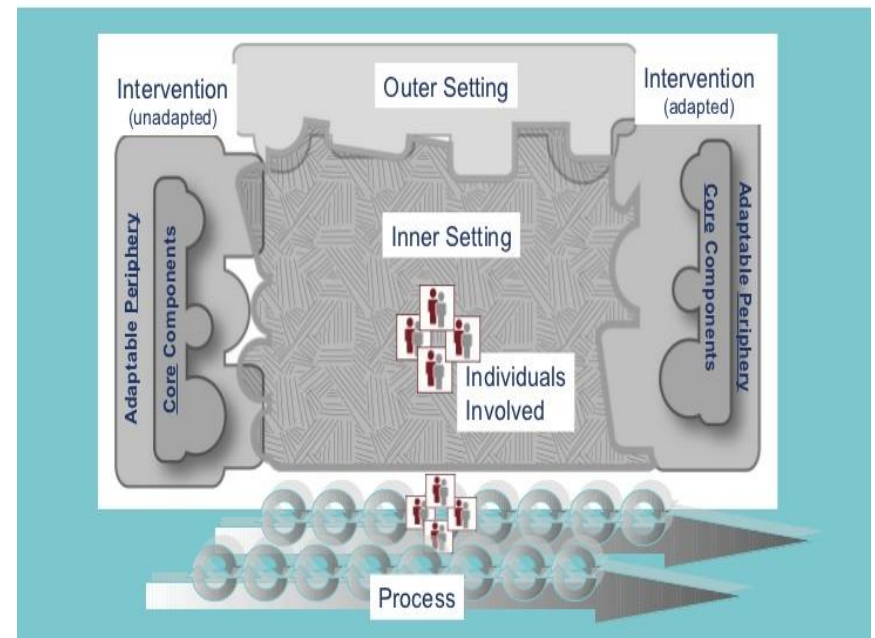
Reasons to assess barriers and facilitators (**determinants of implementation success**)

- 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

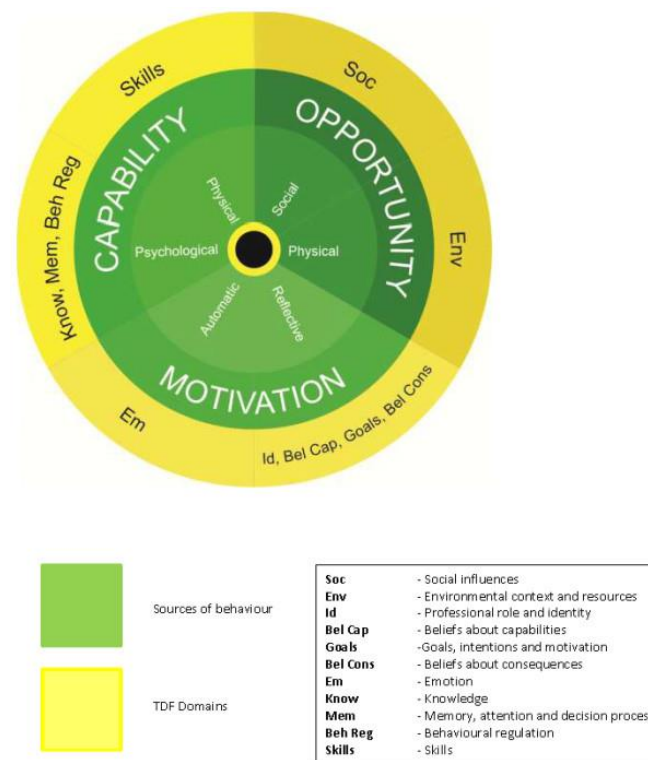
Consolidated Framework for Implementation Research (CFIR)



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



NB. **Nature of behaviours** not considered a source of behaviour (see text for details) and therefore removed from the analysis

<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

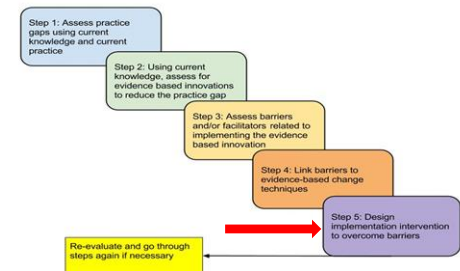


So how do you use these?

- 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

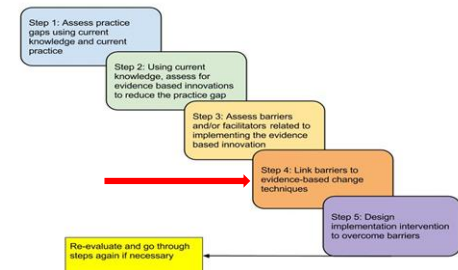
- Current leading edge in implementation research
 - Linking barriers to techniques (at individual level)
 - Linking barriers to strategies (at higher level)
 - Designing interventions from strategies (broad) and techniques (micro) as indicated



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)

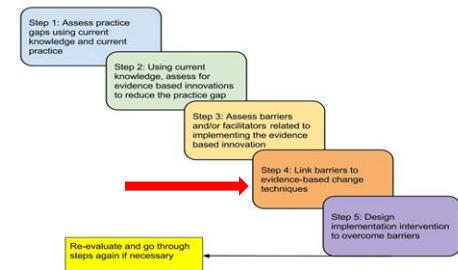
Reference: Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M. P., Cane, J. & Wood, C. E. (2013). The Behavior Change Technique Taxonomy (v1) of 93 Hierarchically Clustered Techniques: Building an International Consensus for the Reporting of Behavior Change Interventions. *Annals of Behavioral Medicine*, 46(1), pp. 81-95. doi: 10.1007/s12160-013-9486-6



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)

Reference: Powell et al. Implementation Science (2015) 10:21 DOI 10.1186/s13012-015-0209-1



**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

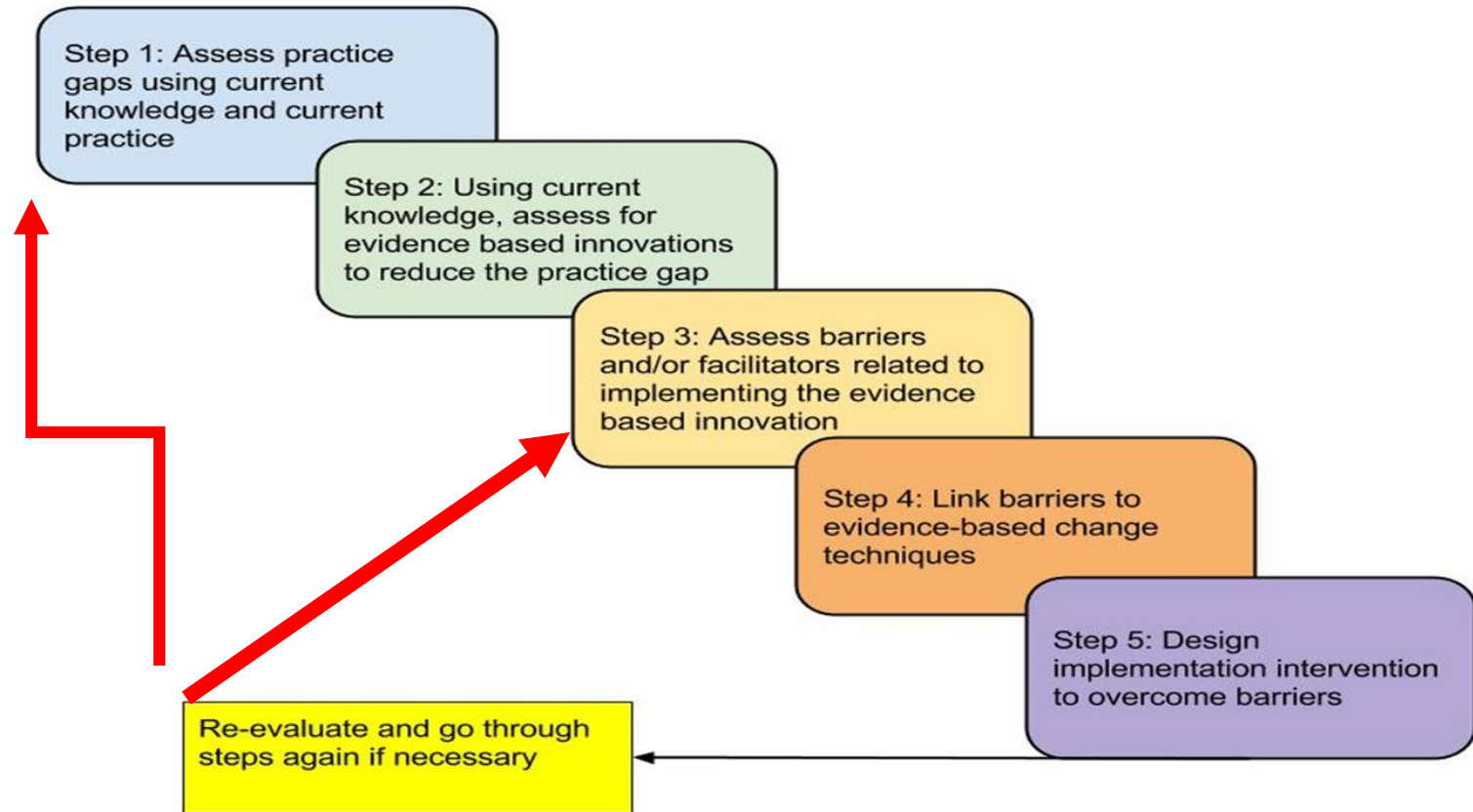
Consider possible strategies (using CFIR)

- 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



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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