THEORIES AND FRAMEWORKS IN D&I RESEARCH

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Rachel Tabak, Elaine Khoong, David Chambers, and Ross Brownson
Overview

- Terminology
- Importance of frameworks and theories (models) in D&I research
- Paper and website methodology and results
- Inventory and categorization of models to inform selection
- Selecting a model
- Discussion
Terminology

- **Theory**: a set of interrelated concepts, definitions, and propositions that present a systematic view of events or situations by specifying relations among variables, in order to explain and predict events or situations.¹

- **Conceptual Framework**: A type of intermediate theory that attempts to connect to all aspects of inquiry; can act like maps that give coherence to empirical inquiry.²

- **Model**: A description of analogy used to help visualize something that cannot be directly observed.³

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Benefits of Theory/Framework

- Enhance effectiveness of interventions
  - Public health interventions that utilize health behavior theory-more effective than those without a theoretical base
  - Helps focus interventions on complex, essential processes
- Ensure inclusion of essential D&I strategies
- Enhance interpretability of findings
- Provide systematic structure for the development, management, and evaluation of D&I efforts
- Models suggest what is important to measure
- Helps explain why an intervention works (or doesn’t)
Questions to Consider

- What is the scope of the study?
- What characteristics of context are relevant to the research questions?
- What is the timeframe?
- Are measures available?
- Does the study need to be related to a single model?
- How strict does the use of the model need to be?
- Does the model need to be adapted?
Review Methods

- Snowball sampling: published literature and available presentations
- Selection criteria – D+I research
  - Exclude: Individual behavior change theories, practitioner/clinician focused, end of grant knowledge translation
  - Setting: local level vs. national dissemination plans
  - Publication in English
- Categorizing models
- Contacting authors
Model Categories

Construct Flexibility (CF)

1: Broad
Loosely outlined and defined constructs; allows researchers greater flexibility

2

3

4

5: Operational
Detailed, step-by-step actions for D&I research

Dissemination and / or Implementation (D/I)

D only
Focus on active approach of spreading EBIs to target audience via determined channels using planned strategies

D > I
Equal focus on dissemination and implementation

D = I

I > D
Focus on process of putting to use or integrating evidence-based interventions within a setting

I only

Socio-ecological Framework (SEF)

System: Hospital system, government

Community: Local government, neighborhood

Organization: Hospitals, service organizations, factory

Individual: Personal characteristics

Policy
Review Results

- Identified 109 models
- Exclusions
  - 26 focus on practitioners
  - 12 not applicable to local level dissemination
  - 8 end of grant knowledge translation
  - 2 duplicates
- Included 61 models

“Look at the bright side...we’re still on the cutting edge of yesterday’s technology!”
<table>
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<tr>
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<th>Construct flexibility: broad to operational</th>
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*CF = Construct Flexibility*
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### Appendix A

**Categorization of dissemination and implementation models for use in research studies**

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<th>Community</th>
<th>Organization</th>
<th>Individual</th>
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<th>Number of times model has been cited</th>
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Bridging Research and Practice: Models for Dissemination and Implementation Research

Rachel G. Tabak, PhD, Elaine C. Khoong, BS, David Chambers, DPhil, and Ross C. Brownson, PhD
Prevention Research Center in St. Louis, Brown School, (Tabak, Khoong, Brownson), Division of Public Health Sciences and Alvin J. Siteman Cancer Center, School of Medicine, (Brownson), Washington University in St. Louis, St. Louis, Missouri; National Institute of Mental Health (Chambers), NIH, Bethesda, Maryland

Abstract

Context — Theories and frameworks (hereafter called models) enhance dissemination and implementation (D&I) research by making the spread of evidence-based interventions more likely. This work organizes and synthesizes these models by: (1) developing an inventory of models used in D&I research; (2) synthesizing this information; and (3) providing guidance on how to select a model to inform study design and execution.

Evidence acquisition — This review began with commonly cited models and model developers and used snowball sampling to collect models developed in any year from journal articles, presentations, and books. All models were analyzed and categorized in 2011 based on three author-defined variables: construct flexibility, focus on dissemination and/or implementation activities (D/I), and the socio-ecological framework (SEF) level. Five-point scales were used to rate construct flexibility from broad to operational and D/I activities from dissemination-focused to implementation-focused. All SEF levels (system, community, organization, and individual) applicable to a model were also extracted. Models that addressed policy activities were noted.

Evidence synthesis — Sixty-one models were included in this review. Each of the five categories in the construct flexibility and D/I scales had/contained at least four models. Models were distributed across all levels of the SEF; the fewest models (n=8) addressed policy activities. To assist researchers in selecting and utilizing a model throughout the research process, the authors present and explain examples of how models have been used.

Conclusions — These findings may enable researchers to better identify and select models to inform their D&I work.

A Thematic Analysis of Theoretical Models for Translational Science in Nursing: Mapping the Field

Sandra A. Mitchell, CRNP, PhD, AOCN®, Cheryl A. Fisher, RN-BC, EdD, Clare E. Hastings, RN, PhD, FAAN®, Leanne B. Silverman, BA, and Gwyneth R. Wallen, RN, PhD

1Clinical Center, National Institutes of Health, Bethesda, MD

Abstract

Background — The quantity and diversity of conceptual models in translational science may complicate rather than advance the use of theory.

Purpose — This paper offers a comparative thematic analysis of the models available to inform knowledge development, transfer, and utilization.

Method — Literature searches identified 47 models for knowledge translation. Four thematic areas emerged: (1) evidence-based practice and knowledge transformation processes; (2) strategic change to promote adoption of new knowledge; (3) knowledge exchange and synthesis for application and inquiry; (4) designing and interpreting dissemination research.

Discussion — This analysis distinguishes the contributions made by leaders and researchers at each phase in the process of discovery, development, and service delivery. It also informs the selection of models to guide activities in knowledge translation.

Conclusions — A flexible theoretical stance is essential to simultaneously develop new knowledge and accelerate the translation of that knowledge into practice behaviors and programs of care that support optimal patient outcomes.

Keywords

Translational science; evidence-based practice; knowledge translation; dissemination research; theory
Disseminating research findings: what should researchers do? A systematic scoping review of conceptual frameworks

Paul M Wilson1*, Mark Petticrew2, Mike W Calnan3, Irwin Nazareth4

Abstract

Background: Addressing deficiencies in the dissemination and transfer of research-based knowledge into routine clinical practice is high on the policy agenda both in the UK and internationally. However, there is lack of clarity between funding agencies as to what represents dissemination. Moreover, the expectations and guidance provided to researchers vary from one agency to another. Against this background, we performed a systematic scoping to identify and describe any conceptual/organising frameworks that could be used by researchers to guide their dissemination activity.

Methods: We searched twelve electronic databases (including MEDLINE, EMBASE, CINAHL, and PsycINFO), the reference lists of included studies and of individual funding agency websites to identify potential studies for inclusion. To be included, papers had to present an explicit framework or plan either designed for use by researchers or that could be used to guide dissemination activity. Papers which mentioned dissemination (but did not provide any detail) in the context of a wider knowledge translation framework were excluded. References were screened independently by at least two reviewers; disagreements were resolved by discussion. For each included paper, the source, the date of publication, a description of the main elements of the framework, and whether there was any implicit/explicit reference to theory were extracted. A narrative synthesis was undertaken.

Results: Thirty-three frameworks met our inclusion criteria, 20 of which were designed to be used by researchers to guide their dissemination activities. Twenty-eight included frameworks were underpinned at least in part by one or more of three different theoretical approaches, namely persuasive communication, diffusion of innovations theory, and social marketing.

Conclusions: There are currently a number of theoretically-informed frameworks available to researchers that can be used to help guide their dissemination planning and activity. Given the current emphasis on enhancing the uptake of knowledge about the effects of interventions into routine practice, funders could consider encouraging researchers to adopt a theoretically-informed approach to their research dissemination.
Wealth of existing models for D&I:
- 61 with research focus (Tabak et al., 2012)
- additional 25+ with practitioner/clinician focus (Mitchell et al., 2010)
- 33 frameworks from a UK perspective (Wilson et al. 2010)
This interactive website was designed to help researchers and practitioners to select the D&I Model that best fits their research question or practice problem, adapt the model to the study or practice context, fully integrate the model into the research or practice process, and find existing measurement instruments for the model constructs. The term 'Models' is used to refer to both theories and frameworks that enhance dissemination and implementation of evidence-based interventions more likely.

**Select**
Search, view, and select D&I Models

**Adapt**
Read strategies for adapting D&I Models to research or practice context

**Integrate**
Read strategies for incorporating D&I Models into the full spectrum of your project

**Measure constructs**
Find a list of constructs and links to measurement tools associated with the D&I Models

_{Searchable website}_
http://dissemination-implementation.org/index.aspx
Selecting a model

What is/are the research question(s) I’m seeking to answer?

- Reviewing D&I literature to identify and utilize essential concepts and established definitions
- Articulating a research question and aims
- Determine what evidence is needed
What is the purpose of the model in the context of the study?

Nilsen proposed five categories within three aims:

- Process models ‘describe and/or guide the process of translating research into practice’.
- Determinant frameworks help explain/understand influences on implementation outcomes.
- Classical theories and Implementation theories explain/understand implementation efforts.
- Evaluation frameworks specify aspects to evaluate to determine success.

http://www.implementationscience.com/content/pdf/s13012-015-0242-0.pdf
What socioecological level(s) of change am I seeking to explain?

- Individual, organizational, community, system
- Policy: “big P” policy and “small P” policy
Why do we choose a certain model?

Most important criteria in a survey of implementation researchers and practitioners:

- Empirical support
- Explanatory power/testability
- Applicability to setting
- Description of change process
- Analytic level

Other listed criteria

- Familiarity
- Degree of specificity
- Accessibility

- Pragmatic: contributes substantively to the conceptualization of the research question (e.g., generalizability)
- Political: (i.e. disciplinary approval or uniqueness)
A note on model categorization

- Organized using a number of different categories
- Divisions to assist in model selection – not actual classifications
- Overlap between models/constructs
- Similarity of the theoretical underpinnings
Also in the Paper...

- **Researcher Considerations**
  - Using an existing model vs. developing a new model
  - Selecting the model
  - Using the selected model
  - Adaptation
  - Measurement

- **Case Studies**
ACKNOWLEDGEMENTS

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