Definitions and Models in Knowledge Translation: Time For Clarity?

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LOST IN TRANSLATION…

(Graham et al., 2006; Strauss, Tetroe & Graham, 2009; McKibbon et al., 2010).

https://whatiskt.wikispaces.com/KT+Science+Terms


DANGER
Practice
Research
Collaborations
Advances

Knowledge Utilization to Inform and Improve Clinical Decision-Making and Patient Outcomes

TYPE	DEFINITION
Research utilization	Specific kind of KU Complex process: research, is transformed into **instrumental, conceptual**, or **persuasive utilization**.
Instrumental utilization	**Concrete application research** • translated into a material and usable form (e.g. protocol or guidelines)
Conceptual utilization	**Research findings may change one's thinking** • but not necessarily one's particular or observable action.
Symbolic utilization	**Involves the use of research findings from one or more studies** • persuasive (or political) tool to legitimate a position or practice.

Diffusion

Dissemination and Knowledge Translation

Implementation Science

Utilization

Meeting the End Goal of Knowledge Utilization: Three Distinct but Interrelated Processes

Diffusion
"Let it happen"

A passive process by which new evidence is communicated to researchers, educators, and educational policy makers using traditional vehicles.

- Examples:
- Conference presentations
- Peer-reviewed publications
- Social media

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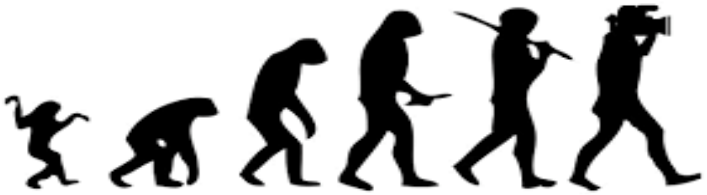
Dissemination & Knowledge Translation
"Make it happen"

Targeted and tailored data and information are transmitted to relevant audiences to increase the uptake of evidence and bridge research-practice gaps.

- Example:
- End-of-grant reports to funders
- Summaries and briefs to stakeholders
- Creation of knowledge tools such as guidelines and systematic reviews

Where did KT “come from”?



KT is a fairly new field of scientific study

Born out of an increasing emphasis on using available scientific evidence to promote best practice and optimize patient outcomes

Numerous studies have found that health care professionals do not readily integrate findings from scientific research into clinical decision making

(Cabana et al., 1999; Davis et al., 2003; McGlynn et al., 2003; Korner-Bitensky et al., 2006)

Knowledge Translation
"Make it happen"

End of research/grant KT

- End of grant research report to funders
- Summary/briefings to stakeholders
- Creation of tools

(e.g., guidelines; systematic reviews)

Integrated KT

- Researchers and research users working together to shape the research process- starting:
  - on setting the research questions
  - deciding the methodology
  - data collection and tools development
  - Interpreting the findings
  - helping disseminate the research results
- Collaborative research, action-oriented research, and co-production of knowledge
- Should produce research findings that are more likely be relevant to and used by the end users

What knowledge/evidence are you trying to move into practice?

Who is the intended audience?

Who are the stakeholders?

Who are you working with to promote change?

Are there individual and/or organizational barriers?

What are the facilitators?

Do you need to adapt, refine, tailor the method/content?

What resources will you need to promote a change?

How will you document the process and the outcomes?

How will you ensure sustainability?

Are you using a model of framework?

But changing behaviours is complex…

Implementation science is the scientific study of KT

Theories, models, methods that underpin KT efforts aimed at changing behaviours/promoting uptake or research in practice

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Implementation Science
"Use robust methods"

Using robust scientific methods underpinned by theories, models, and frameworks:

1. identify research-practice gaps,
2. identify supports & barriers to the uptake of evidence
3. design interventions to reduce research-practice gaps
4. evaluate impact of the intervention on educational practices.

- Example:
- Theory of planned behaviour
- Knowledge-to-action process frameworks
- Assess supports and barriers, design tailored, theory-driven interventions to promote research uptake

The science of "implementation research" or KT could be significantly improved by a more systematic approach to the use of theory.

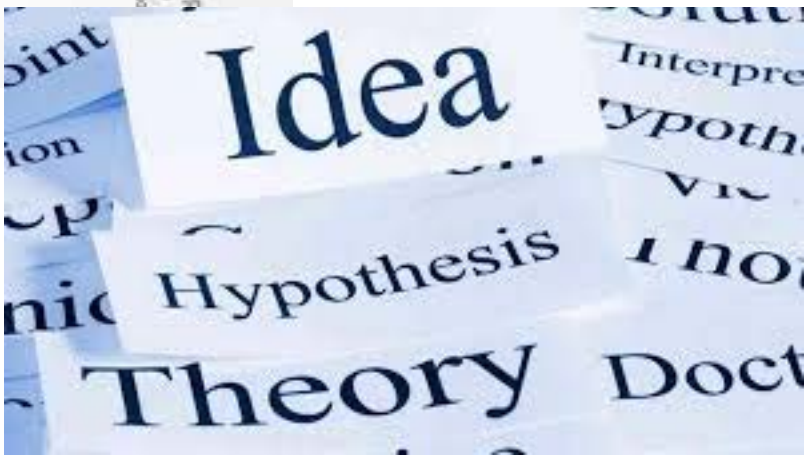
(Eccles et al., 2005)

Many theories, models and frameworks available

(Nilsen, 2015)

- PARiHS framework (Kitson et al. 1998; Rycroft-Malone et al. 2002; Kitson et al. 2008)
- Diffusion of Innovation (Rogers, 1995)
- Stetler Model of Research Use (Stetler, 2001)
- Normalization Process Theory (May & Finch, 2009)
- Theory of Planned Behaviour (Ajzen, 1991)
- Ottawa Model of Research Utilization (Logan & Graham, 1998)
- IOWA Model of Evidence-Based Practice to Improve Quality Care (Titler et al. 2001)
- Theoretical Domains framework (Michie et al, 2008; Cane et al., 2012)
- Consolidated Framework for Implementation Research (Damshroder, 2009)
- Knowledge to Action Model (Graham et al. 2005)
- ……

How do theories help?



How do models help?

(Brehaut & Eva, 2012; Colquhoun et al., 2010; Davies et al., 2010; Philippa et al., 2010; Thomas et al., 2014)

Why use theories and conceptual models?

Nilsen (2015)

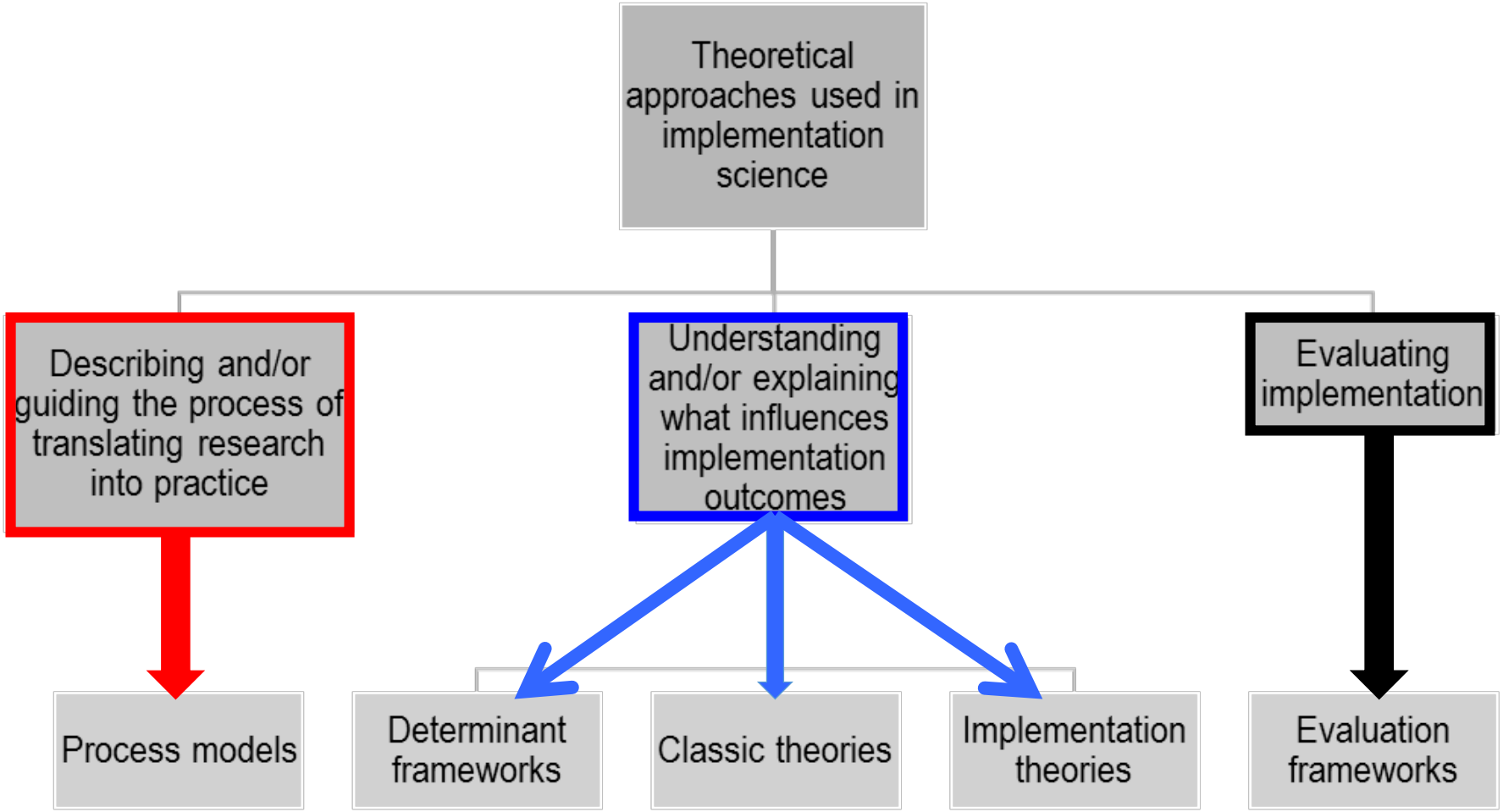


Figure 1 Three aims of the use of theoretical approaches in implementation science and the five categories of theories, models and frameworks.

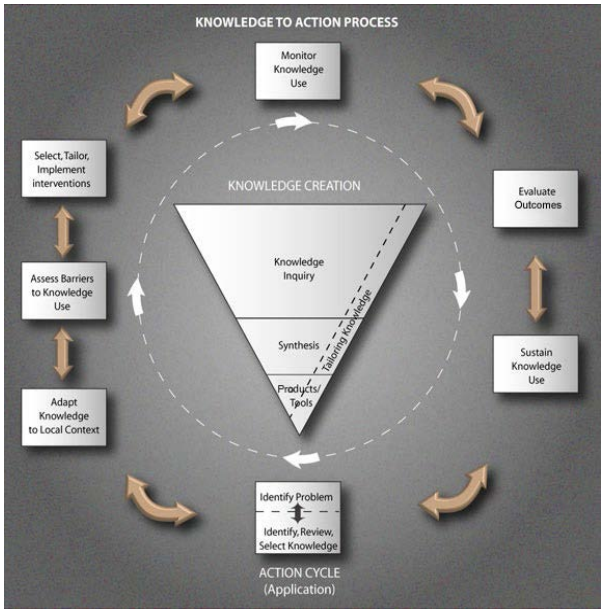
(Eccels et al., 2005; Graham et al., 2006; ICEBeRG 2006; Philippa et al., 2010; Nilsen, 2015)

3 examples

AIM	MODEL
Process	Knowledge to Action
Determinants	Theoretical Domains Framework
Evaluation of implementation	RE-AIM

PROCESS
Knowledge to action (KTA) framework
(Graham et al., 2006)

- Key concepts underpinning KTA:
  - cyclic nature of the KTA process
  - critical role of feedback loops (Tetroe, 2010).



- Considers various sources of information as knowledge (Graham et al., 2010).

- Result of a review of more than 31 planned action theories.

DETERMINANTS
Theoretical Domains Framework
(Michie et al, 2008; Cane et al., 2012)

1. **Knowledge**
   - Aware of guidelines and evidence?
2. **Skills**
   - Sufficient training in techniques required?
3. **Social/professional role and identity**
   - Is the action part of what the actor sees as 'typical' of their profession?
4. **Beliefs and capabilities**
   - Confident in capacity to do the behavior? What makes it easier or difficulty?
5. **Optimism**
   - Is the actor generally optimistic that doing the behaviour will make a difference in the grand scheme of things?
6. **Beliefs about consequences**
   - What are the benefits and negative aspects of doing the behavior?
7. **Reinforcement**
   - Does the behaviour lead to any personal or external reward when it is performed?
8. **Intentions**
   - How motivated is the actor to do this?
9. **Goals**
   - How much of a priority is this action compared to other competing demands?
10. **Memory, attention and decision processes**
    - Does the actor ever forget? Are there reminders in place?
11. **Environmental context and resources**
    - Are there sufficient resources to do the behaviour? If not, what is missing?
12. **Social influences**
    - Who influences the decision to perform the behaviour?
13. **Emotion**
    - Is performing the behaviour stressful?
14. **Behavioural regulation**
    - What does the actor personally do to ensure that they perform the behaviour?

EVALUATION OF IMPLEMENTATION

Designed to enhance the quality, speed, and impact of efforts to translate research into practice in 5 steps:

1. **Reach** your intended target population
2. **Efficacy** or effectiveness
3. **Adoption** by target staff, settings, or institutions
4. **Implementation** consistency, costs and adaptations made during delivery
5. **Maintenance** of intervention effects in individuals and settings over time

Dissemination

Diffusion

Research utilization

Knowledge translation

Knowledge exchange

Knowledge uptake

Implementation science

Merci

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