Behavioural approaches to knowledge translation

Jeremy Grimshaw
Clinical Epidemiology Program, Ottawa Hospital Research Institute
Department of Medicine, University of Ottawa
Cochrane Effective Practice and Organisation of Care Group
Background

- Consistent evidence of failure to translate research findings into clinical practice
  - 30-40% patients do not get treatments of proven effectiveness
  - 20–25% patients get care that is not needed or potentially harmful
  - Suggests that implementation of research findings is fundamental challenge for healthcare systems to optimise care, outcomes and costs

Schuster, McGlynn, Brook (1998). *Milbank Memorial Quarterly*

Grol R (2001). *Med Care*
Traditional approaches to knowledge translation

ISLAGIATT principle

‘It Seemed Like A Good Idea At The Time’

Martin P Eccles
Traditional approaches to knowledge translation

Cluster randomized trial of a guideline-based open access urological investigation service


**Background.** Out-patient services are trying to achieve effective and efficient health care in overcrowded, busy clinic settings. ‘One stop’ and ‘open access’ clinics have been advocated as a way of improving out-patient services.

**Objectives.** Our aim was to evaluate the effectiveness and efficiency of a guideline-based open access urological investigation service.
Behavioural approach to Knowledge Translation

• Implementation depends on behaviour
  • Citizens, patients, health professionals, managers, policy makers
• To improve care, we need to change behaviour
• To change behaviour, it helps to understand determinants of current behaviour and how behaviour changes

Changing the behavior of healthcare professionals: the use of theory in promoting the uptake of research findings

Martin Eccles, Jeremy Grimshaw, Anne Walker, Marie Johnston, Nigel Pitts

*Centre for Health Services Research, University of Newcastle upon Tyne, 21 Claremont Place, Newcastle upon Tyne, NE2 4AA, UK
*Clinical Epidemiology Programme, Ottawa Health Research Institute, 1053 Curting Avenue, C-403, Ottawa, Canada
*Health Services Research Unit, University of Aberdeen, Medical School, Foresterhill, Aberdeen AB25 2ZD, UK
*School of Psychology, University of Aberdeen, Aberdeen, AB24 2UB, UK
*Dental Health Services Research Unit, University of Dundee, Dental School, 2 Park Place, Dundee, DD1 4HR, UK

Accepted 12 September 2004

Abstract

Objective: The uptake of research findings into routine health care is a haphazard and unpredictable process. The usefulness of the results of implementation studies is limited, due in part to the lack of an underlying framework of the important dimensions of research studies in this area and the healthcare settings within which they are conducted and may subsequently be used.

Study Design and Setting: We explore the role for a theory-based framework and suggest some of the methods that would be needed to operationalize the framework in the context of designing and conducting interventions aimed at improving the use of research findings by individual healthcare professionals or teams.

Conclusions: This research offers a framework for those who would seek to use the results of such studies in routine healthcare settings. © 2005 Elsevier Inc. All rights reserved.

Keywords: Implementation research; Behavior change; Theory
Behavioural approach to Knowledge Translation

VARIANCE AND DISSENT

The OFF theory of research utilization

“Well, I can see that it works in practice, but does it work in theory?”—Garret Fitzgerald

In this issue, Eccles et al. [1] argue that we need theory to promote the uptake of research findings. We have been invited to argue for a more pragmatic and less theory-driven approach. Unfortunately, we have to agree with the theory-driven approach. The problem is they have not selected the right theory.

To derive the correct theory, we consulted the Biology and Sociology department of HARLOT, Inc., which guarantees highly plausible theories to support otherwise patently unbelievable results [2]. They used traditional methods for theory development. A lot of thinking and some personal experience formed the basis for an iterative process for which we cannot account in any comprehensible way.

The OFF theory of research utilization can be summarized in a single sentence: You don’t need a theory, to avoid being labeled atheoretical, we needed to name our theory.

An alternative, continuous hierarchy of theories suggests that the number of boxes and arrows in a diagram of the theory is highly correlated with status and citations. Although our theory is delightfully simple, we have incorporated a large number of arrows in the diagram of our theory to avoid being labeled simplistic (Fig. 1) and to ensure future citations. Furthermore, we believe many will be impressed by the fact that by applying the model of our theory to the theory itself, a new diagram naturally evolves, and this time the arrows point in both directions (the OFF circle, Fig. 2).

Finally, to ensure our status and future citations, we have provided the OFF theory with an unsurpassed pedigree (Box 1). The lineage of the OFF theory can be traced back to Einstein, Emerson, and Yogi Berra, not to mention Kant, Mencken, and Douglas Adams. As with all good theories,
Knowledge to action cycle

Knowledge to Action loop

From: Graham ID et al. Lost in Knowledge Translation: Time for a Map? Journal of Continuing Education in the Health Professions, 2006
Salient beliefs and intentions to prescribe antibiotics for patients with a sore throat

A. E. Walker,* J. M. Grimshaw and E. M. Armstrong

Health Services Research Unit, University of Aberdeen, UK

Objectives. General practitioners (GPs) in the UK continue to prescribe antibiotics for patients with sore throats despite evidence that they are ineffective and can contribute to the growth of antibiotic resistance in the population. This study uses the theory of planned behaviour (TPB) to investigate the strength of intention to prescribe antibiotics, and to identify the salient beliefs associated with this intention.

Design. Cross-sectional study testing hypotheses derived from the TPB.
Theory of Planned Behaviour

Attitudes

Subjective Norms

Perceived Behavioural Control

Behavioural Intention

Behaviour

Multiple Theories Approach

BMC Health Services Research

Study protocol

PRIME – PRocess modelling in ImpleMENtation research: selecting a theoretical basis for interventions to change clinical practice
Anne E Walker¹, Jeremy Grimshaw², Marie Johnston³, Nigel Pitts⁴, Nick Steen⁵ and Martin Eccles*⁵

Address: ¹Health Services Research Unit, University of Aberdeen, Aberdeen, UK; ²Clinical Epidemiology Programme, Ottawa Health Research Institute, Ottawa, Canada; ³Department of Psychology, University of Aberdeen, Aberdeen, UK; ⁴Dental Health Services Research Unit, University of Dundee, Dundee, UK and ⁵Centre for Health Services Research, University of Newcastle upon Tyne, UK

Email: Anne E Walker - anne.walker@yahoo.com; Jeremy Grimshaw - jgrimshaw@chri.ca; Marie Johnston - m.johnston@abdn.ac.uk; Nigel Pitts - n.b.pitts@dundee.ac.uk; Nick Steen - nick.steen@ncl.ac.uk; Martin Eccles* - martin.eccles@ncl.ac.uk

* Corresponding author

Published: 19 December 2003
Received: 18 September 2003
Accepted: 19 December 2003

This article is available from: http://www.biomedcentral.com/1472-6963/3/22
Theoretical Domains Approach

Making psychological theory useful for implementing evidence based practice: a consensus approach

S Michie, M Johnston, C Abraham, R Lawton, D Parker, A Walker, on behalf of the “Psychological Theory” Group


Background: Evidence-based guidelines are often not implemented effectively with the result that best health outcomes are not achieved. This may be due to a lack of theoretical understanding of the processes involved in changing the behaviour of healthcare professionals. This paper reports the development of a consensus on a theoretical framework that could be used in implementation research. The objectives were to identify an agreed set of key theoretical constructs for use in (1) studying the implementation of evidence based practice and (2) developing strategies for effective implementation, and to communicate these constructs to an interdisciplinary audience.

Methods: Six phases of work were conducted to develop a consensus: (1) identifying theoretical constructs; (2) simplifying into construct domains; (3) evaluating the importance of the construct domains; (4) interdisciplinary evaluation; (5) validating the domain list; and (6) piloting interview questions. The contributors were a “psychological theory” group (n = 18), a “health services research” group (n = 13), and a “health psychology” group (n = 30).

Results: Twelve domains were identified to explain behaviour change: (1) knowledge, (2) skills, (3) social/professional role and identity, (4) beliefs about capabilities, (5) beliefs about consequences, (6) motivation and goals, (7) memory, attention and decision processes, (8) environmental context and resources, (9) social influences, (10) emotion regulation, (11) behavioural regulation, and (12) nature of the behaviour.

Conclusions: A set of behaviour change domains agreed by a consensus of experts is available for use in implementation research. Applications of this domain list will enhance understanding of the behaviour change processes inherent in implementation of evidence-based practice and will also test the validity of these proposed domains.
Theoretical Domains Approach

Determinants of behaviour

- Knowledge
- Skills
- Social/professional role and identity
- Beliefs about capabilities
- Beliefs about consequences
- Motivation and goals
- Memory, attention and decision processes
- Environmental context and resources
- Social influences
- Emotion
- Behavioural regulation

Michie (2005) Quality and Safety in Health Care

• Nature of the behaviours
Theoretical Domains Approach

Implementation Science

Learning curves, taking instructions, and patient safety: using a theoretical domains framework in an interview study to investigate prescribing errors among trainee doctors


Eilidh M Duncan (e.duncan@abdn.ac.uk)
Jill J Francis (j.francis@abdn.ac.uk)
Marie Johnston (m.johnston@abdn.ac.uk)
Peter Davey (p.g.davey@cpse.dundee.ac.uk)
Simon Maxwell (s.maxwell@ed.ac.uk)
Gerard A McKay (gerard.mckay@ggc.scot.nhs.uk)
James McLay (j.mclay@abdn.ac.uk)
Sarah Ross (s.ross@abdn.ac.uk)
Cristin Ryan (c.ryan@qub.ac.uk)
David J Webb (D.J.Webb@ed.ac.uk)
Christine Bond (c.m.bond@abdn.ac.uk)
PROTECT Study Group (not@valid.com)
Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework

Simon D French1,2, Sally E Green1, Denise A O'Connor1, Joanne E McKenzie1, Jill J Franks3, Susan Michie1, Rachelle Buchbinder1,3, Peter Schattner5, Neil Spiker1 and Jeremy M Grimshaw1,3

Abstract

Background: There is little systematic operational guidance about how best to develop complex interventions to reduce the gap between practice and evidence. This article is one in a Series of articles documenting the development and use of the Theoretical Domains Framework (TDF) to advance the science of implementation research.

Methods: The intervention was developed considering three main components: theory, evidence, and practical issues. We used a four-step approach, consisting of guiding questions, to direct the choice of the most appropriate components of an implementation intervention. Who needs to do what, differently? Using a theoretical framework, which barriers and enablers need to be addressed? Which intervention components (behaviour change techniques and modell(s) of delivery) could overcome the modifiable barriers and enhance the enablers? And how can behaviour change be measured and understood?

Results: A complex implementation intervention was designed that aimed to improve acute low back pain management in primary care. We used the TDF to identify the barriers and enablers to the uptake of evidence into practice and to guide the choice of intervention components. These components were then combined into a cohesive intervention. The intervention was delivered via two facilitated interactive small group workshops. We also produced a DVD to distribute to all participants in the intervention group. We chose outcome measures in order to assess the mediating mechanisms of behaviour change.

Conclusions: We have illustrated a four-step systematic method for developing an intervention designed to change clinical practice based on a theoretical framework. The method of development provides a systematic framework that could be used by others developing complex implementation interventions. While this framework should be iteratively adjusted and refined to suit other contexts and settings, we believe that the four-step process should be maintained as the primary framework to guide researchers through a comprehensive intervention development process.
The Theoretical Domains Framework (TDF) is a theoretical framework for understanding and predicting behaviors. TDF is a framework that is used to understand the factors that influence behavior and to develop intervention strategies to change behavior. The TDF is a composite of 12 theoretical domains that can be used to guide the development of interventions to change behavior. The TDF is used to identify the barriers and facilitators to behavior change and to develop intervention strategies to overcome these barriers. The TDF is a useful tool for health behavior change research and for the development of interventions to change behavior.
Summary

• Consistent evidence of failure to translate research findings into clinical practice
• Behavioural perspective may be helpful to inform barrier assessment and intervention choice
• Theoretical domains framework is innovative and accessible way to use behavioural approach to inform knowledge translation activities
Contact details

• Jeremy Grimshaw - jgrimshaw@ohri.ca
• EPOC – http://epoc.cochrane.org/
• Rx for Change database of appraised reviews of professional behaviour change - www.rxforchange.ca
• KT Canada - http://ktclearinghouse.ca/ktcanada