Implementing research findings into practice: frameworks and guidance

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ABSTRACT

Background: Health services across the world are constantly introducing changes into their workplaces and these affect many people. As new robust and reliable evidence becomes available, it is important that changes to practice are made. As health professionals, we have to be flexible and accommodate this change; for some this means disruption, challenge and having to learn new ways of doing things. Barriers exist that prevent or delay changes being made to established practice in all organizations, whatever the culture. This is a world-wide problem. It is important to understand the barriers to change so that solutions can be found. Some changes that are needed don't occur, because clinicians are unaware of the new evidence, while for others there needs to be something introduced to drive forward the change. This process is not a passive one; active involvement is needed for the change to be successful. Individual attitudes and beliefs play a significant part in change, and their influences are often underestimated, so these also need to be explored. Practice change may require new skills to be learnt – another obstacle for change.

Aim: In this short communication, the science behind evidence implementation is introduced and then some of the factors that impact on change are explored, drawing on three useful models and frameworks.

Conclusion: Ultimately there remains a gap between interventions that research has shown to be effective and their translation into practice; this has to be closed.

Key words: evidence-based healthcare, implementation science, Joanna Briggs Institute, knowledge translation

Background

In 2012, Grimshaw et al.\textsuperscript{1} reported that consistently, research findings fail to be translated in a timely manner into practice and policy. Consequently there has been a growing interest in how this can be rectified. The science related to implementation of evidence into practice has been evolving as a means of identifying the methods and approaches to address these problems, driving both small and large-scale change. Implementation should be seen as a process, rather than an outcome, however, and as May commented, this is a complex mix of actions and activities\textsuperscript{2}, all aimed at securing behaviour change.

The use of terminology to explain the process of implementation has created some confusion, because across the world different disciplines use different terms for the same concept. Health has favoured Knowledge Translation with the key influence being from Canada, while the United Kingdom has been moving towards using the words Knowledge Mobilization. Other terms include research translation, knowledge exchange and implementation science. To complicate matters further, more recently the term ‘improvement science’ has been introduced, and is found primarily in the UK and US literature. It provides another framework for health research and other activities based on healthcare improvement\textsuperscript{3}. Miltner et al.\textsuperscript{4} argue that the ‘Lack of consensus adds to the tension about the core of quality improvement research (QIR)/Improvement Science’ and that the inability to clearly define QIR and improvement science slows down the speed of change.

Aims

The aim of this article is to explore how the use of frameworks can help to guide and inform
implementation activities. Three of these will be drawn up to highlight how they have been used to bring about practice change.

**Discussion**

When considering theories or frameworks related to the science of implementation, there are largely three broad groups:

1. **Motivational**: explain behaviour of people who have not yet established intention – for example Theory of Planned Behaviour.5
2. **Action**: explain behaviour of people who have identified a need to change – for example Operant Conditioning.6
3. **Organizational**: explain ‘institution’ level change – for example Diffusion of Innovations theory.7

When deciding what theory to use, a pragmatic choice is best, in that it is important to explore the key focus of attention for the change that is planned and find the theory that has the best fit or alignment with this.

For the purpose of this communication, three approaches to implementation have been singled out, as these are ones that have been shown to be useful in a number of countries throughout the world. These are The Theoretical Domains Framework (TDF)8; the Integrated (i) PARIHS framework9; and the Knowledge to Action framework (KTA).10 Each of these will be outlined briefly and its use in practice highlighted.

**The Theoretical Domains Framework**

The TDF8 was developed using an expert consensus process and validation (led by Susan Michie, from University College London) to identify psychological and organizational theory relevant to health practitioner clinical behaviour change. The framework consisted, initially, of a set of 12 domains covering the main factors influencing practitioner clinical behaviour and behaviour change, then a further two were added, making 14 in total. For more information about the domains, please see [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1743963/pdf/v014p00026.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1743963/pdf/v014p00026.pdf) (accessed 18 October 2018). Each of these domains contains a number of concepts ([http://www.implementationscience.com/content/7/1/37/table/T2](http://www.implementationscience.com/content/7/1/37/table/T2)). The approach was informed by the development of the COM-B model, ([http://www.ktcand.ca/Workshop_tdf/TDF_Michie.pdf](http://www.ktcand.ca/Workshop_tdf/TDF_Michie.pdf)), which also led to the development of the Behaviour Change Wheel.11

The TDF has been widely used in implementation studies across the world, and there is a collection of articles, all open access, in Implementation Science ([http://www.implementationscience.com/series/TDF](http://www.implementationscience.com/series/TDF)).

**i-PARIHS**

The model was developed originally by nurse academics/researchers12 at the United Kingdom’s Royal College of Nursing to aid the implementation of research evidence into practice. In its original form, there were three main areas of activity to assess ranging from weak to strong: Evidence, Context and Facilitation.

More recently, the model has been revisited by two of the original team9 and the concepts revised to more accurately reflect successful implementation. This activity includes:

1. Achievement of agreed implementation/project goals.
2. The uptake and embedding of the innovation in practice.
3. Individuals, teams and stakeholders are engaged, motivated and ‘own’ the innovation.
4. Variation related to context is minimized across implementation settings.

A number of factors are identified for consideration under each of the three headings: Innovation, Recipients, Context.

For an example of the use of i-PARIHS, see Harvey and Kitson’s work.9,13

**Knowledge to Action Framework**

This framework was developed in Canada by Graham et al.10 at the Canadian Institutes for Health Research. It focuses on two main areas of activity: knowledge creation and knowledge tailoring (Fig. 1). The first phase explores the creation of knowledge tools or products, such as an intervention or a clinical guideline that is informed by evidence. The second phase guides the implementation of the product, including the exploration of barriers and enablers to implementation, any tailoring that may be required and the evaluation of the implementation process.

The KTA framework has been used in small scale and large-scale implementation studies; an example of the latter is the WHO study aimed at combatting maternal and perinatal health problems ([http://www.who.int/reproductivehealth/topics/best_practices/greatproject_KTAframework/en/](http://www.who.int/reproductivehealth/topics/best_practices/greatproject_KTAframework/en/)).
Conclusion
There is a growing recognition of the need to do things differently and embrace change to facilitate improvements for our patients.

We need to understand the factors that impact, positively and negatively, on our individual practice.

Alone we can achieve small changes, but together we can drive forward significant change – we can't allow the translation of research findings into any change in clinical practice to take at least 17 years.

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Conflict of interest
The author is the Editorial Board member for Implementation Science; Director of The University of Plymouth Centre for Innovations in Health and Social Care: A Joanna Briggs Institute Centre of Excellence.

References

