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Commentary

It Is Not That Simple nor Compelling!

Comment on "Translating Evidence Into Healthcare Policy and Practice: Single Versus Multi-faceted Implementation Strategies – Is There a Simple Answer to a Complex Question?"

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Abstract

Healthcare decisions are often made under pressure, with varying levels of information in a changing clinical context. With limited resources and a focus on improving patient outcomes, healthcare managers and health professionals strive to implement both clinical and cost-effective care. However, the gap between research evidence and health policy/clinical practice persists despite our best efforts. In an attempt to close the gap through behaviour change interventions, there has been a strong held belief that '*more is better*,' without understanding the mechanisms and circumstances of knowledge translation (KT). We argue that even a *single* intervention or strategy in translating evidence into healthcare policy or practice is rarely simple to implement. Nor is the evidence compelling on the best approach. As Harvey and Kitson argued, designing and evaluating KT interventions requires flexibility and responsiveness. If we are to move forward in translation science then we need to use rigorous designs such as randomised controlled trials to test effectiveness of interventions or strategies with embedded process evaluations to understand the reason interventions do or do not work!

Keywords: Clinical Decision-Making, Evidence-Based Healthcare, Knowledge Translation (KT), Multi-faceted Interventions, Process Evaluation.

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Although the process for translating research evidence into practice has been increasingly scrutinised, the mechanisms to move research evidence into policy and practice are still not well-understood.[1-3] To increase the effectiveness of interventions in knowledge translation (KT) we have seen a proliferation of more complex, multi-faceted interventions and strategies being applied.[3] Yet, with healthcare services more accountable for improving patient outcomes and increasing fiscal responsibility, the question remains, how do healthcare services use limited resources to implement evidence-based practice in an effective way? In a recent review of 25 systematic reviews, Squires and colleagues[4] questioned the commonly held belief that multi-faceted interventions are more effective than single interventions. They concluded there was no statistical evidence that the number of components in the intervention increased the effectiveness of changing health professionals' behaviour in clinical practice.[4] The editorial by Harvey and Kitson[5] raises several important questions prompted by the results of the review. In this commentary, we consider the overview design, the results and implications for KT science.

Firstly, the definition of a single intervention is problematic in KT science and as Squires et al[4] stated "one person's single (composite) intervention is another person's multi-faceted intervention." A single intervention may be described as the implementation of an evidence-based practice guideline, audit and feedback, or facilitation,[3,4,6] however, it can also be a simple reminder provided to healthcare professionals. All of these examples could also be considered multi-faceted interventions. Practice guidelines consist of multiple components that may require different types of knowledge, audit and feedback can also be delivered in varying ways of differing intensities for multiple health disciplines. Facilitation can range from goal focused to more complex emancipatory approaches.[7] Even reminders can vary from passively disseminated approaches such as posters to regular or targeted electronic reminders. Thus, the distinction between single and multi-faceted interventions remains unclear.

In Harvey and Kitson's[5] editorial they posed the question "*does an either-or distinction when considering single versus multi-faceted interventions move the field of knowledge translation forward?*" We concur with them in that the distinction is too simplistic and fails to appreciate the complexity associated with changing health professionals' behaviour. To support their proposition, Harvey and Kitson[5] discussed the Promoting Action on Research Implementation in Health Services (PARIHS) framework. Within the PARIHS framework, successful implementation is seen as an interaction between evidence, context and facilitation; each of these elements has subelements, of varying levels that may be viewed on a continuum of intensity. One glance at this framework, or any other model of KT, highlights the level of complexity in changing health professionals' behaviour; beginning with the type of evidence to be implemented.

In their editorial, Harvey and Kitson explored Carlile's[8] research on knowledge boundaries and concluded that boundaries for the simple transfer of knowledge may indeed require only single interventions, but for novel, more complex

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innovations, multi-faceted interventions are likely to be required for transformation to occur. Therefore, the design of interventions will depend on the type of evidence, the health professionals/individuals involved and the context for KT which may include health policy changes or clinical practice changes. Thus concluding, a single approach will not always be the solution.

Secondly, in reflecting on the approach taken by Squires and colleagues[4] to conduct an overview of systematic reviews, we must consider the strengths and limitations of such an approach and whether the conclusion advances the science of KT. Whilst the systematic reviews included were considered high quality, from a robust database; the review authors noted that primary studies were not reviewed. Thus, the limited information reported offers a summary of the literature rather than a detailed explanation of the variation across primary studies. Squires and colleagues[4] also reported the use of nonstatistical assessments resulting from a limited number of reviews that reported effect size/dose-response statistical analyses of effectiveness; clearly limiting their findings when comparing interventions.

Although randomised controlled trials (RCTs) are the most rigorous approach to evaluate effectiveness, researchers have also questioned the design to measure complex interventions directed at health professionals' performance or service provision.[9-11] To isolate an intervention directed at health professionals' performance or service provision from other contextual influences in clinical practice, that is to maintain internal validity, is very difficult. Locock and colleagues[11] used drug therapy as a metaphor to consider the "active ingredients" for planning complex, organisational change. For example, components such as drug potency, timing, route, site and duration of administration, side effects or allergic reactions, compliance or concordance, and complementary therapies. Similar elements must be pondered for KT interventions.

Harvey and Kitson[5] argued that building explanatory theory rather than seeking causal relationships using RCTs may be more appropriate in furthering the science of KT. Others have claimed that multi-faceted trials embedded in a social context pose methodological challenges and design adaptations[12]; there is a need to understand if the intervention itself failed (the concept) or it was inadequately delivered (the implementation).[13] Unfortunately, we rarely know why an intervention succeeded, failed or resulted in an equivocal result. The lack of emphasis on process evaluation has been highlighted as a major deficit in implementation science.[14] Arguably, process evaluation should be embedded in implementation trials to enable a detailed knowledge about what works for whom, how and in what circumstances.[15] Realistic evaluation is one method to explore how and under what conditions a given measure will produce its impacts and should extend our understanding of the science of KT.[15]

Concluding Thoughts

KT in healthcare requires more creative designs and critical measurement of all interventions both single and multi-faceted ones if we are understand what works, when, for whom and why. We support Harvey and Kitson's[5] call for flexibility and responsiveness in designing implementation strategies, the field of KT needs to be further explored and evaluated as complex as it is. Moving forward in translation science needs rigorous designs such as randomised clinical trials to test the effectiveness of implementation strategies with embedded process evaluations to understand contextual influences and outcomes.

Ethical issues

Not applicable.

Competing interests

The first author of this commentary and one of the authors of the editorial has worked together in the past.

Authors' contributions

Both authors contributed equally to the production of this manuscript.

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