

Guideline uptake is influenced by six implementability domains for creating and communicating guidelines: a realist review

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Abstract

Objectives: To identify factors associated with the implementability of clinical practice guidelines (CPGs) and to determine what characteristics improve their uptake.

Study Design and Setting: We conducted a realist review, which involved searching multiple sources (eg, databases, experts) to determine what about guideline implementability works, for whom, and under what circumstances. Two sets of reviewers independently screened abstracts and extracted data from 278 included studies. Analysis involved the development of a codebook of definitions, validation of data, and development of hierarchical narratives to explain guideline implementability.

Results: We found that guideline implementability is associated with two broad goals in guideline development: (1) creation of guideline content, which involves addressing the domains of stakeholder involvement in CPGs, evidence synthesis, considered judgment (eg, clinical applicability), and implementation feasibility and (2) the effective communication of this content, which involves domains related to fine-tuning the CPG's message (using simple, clear, and persuasive language) and format.

Conclusion: Our work represents a comprehensive and interdisciplinary effort toward better understanding, which attributes of guidelines have the potential to improve uptake in clinical practice. We also created codebooks and narratives of key concepts, which can be used to create tools for developing better guidelines to promote better care. © 2015 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

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1. Introduction

Recent efforts in the clinical practice guideline (CPG) research enterprise have focused on identifying factors that can be targeted to increase the uptake of recommendations to improve patient outcomes and strengthen delivery

systems. These efforts have included investigations into extrinsic (changing the practice setting to facilitate recommendation use) and intrinsic approaches (changing the guideline itself) to improving CPGs. Both approaches are needed, but given the costs and context dependence of extrinsic approaches, investigation of intrinsic approaches may lead to solutions at minimal cost and that may be more broadly applicable and feasible. Shiffman et al. [1] have referred to “implementability” as the perceived characteristics of guidelines that predict the relative ease of their implementation. Gagliardi et al. [2] developed a framework of guideline implementability, which was tested with 20

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What is new?**Key finding**

- We identified six domains of guideline implementability hypothesized to affect uptake of recommendations within two broad categories: (1) the “creation” of guideline content, which involves addressing stakeholder involvement in guidelines, evidence synthesis, considered judgment, and implementation feasibility and (2) the “communication” of this content by fine-tuning the guideline’s message and format.

What this adds to what was known?

- Building on the work of others, this is the first systematic review to investigate guideline implementability from a comprehensive and multidisciplinary perspective (ie, psychology, management, and human factors engineering).
- Our analysis moves beyond the medical and implementation science literature (which tend to focus on the creation of content) and incorporates other disciplinary content, which expands understanding of the relevant factors, particularly those related to the communication of content.

What is the implication and what should change now?

- Guidelines summarize clinical evidence to inform clinicians’ decision making, but how they are developed and written influences how often they are used.
- Our work represents an important, comprehensive, and interdisciplinary effort toward better understanding of which attributes of guidelines have the potential to improve uptake in clinical practice.
- We created narratives of key concepts, which can be used to develop tools to build better guidelines and promote better care.

different CPGs, and found that elements related to guideline format (eg, guidelines that provide summary versions) and content (eg, clinical considerations to individualize recommendations) provided the best opportunities to modify CPGs for improved uptake. Grol et al. [3] found that guidelines that are compatible with existing norms among the target group for implementation and those that do not demand too much change to existing routines, extra resources, or acquisition of new knowledge and skills were used more. Michie et al. [4,5] suggest that clarity, specificity of behavioral instructions, and specific plans are important to get

physicians to follow guidelines, but these factors have largely been overlooked.

Together, these contributions have served as an excellent foundation and have enabled a dialog within the health services research community about guideline implementability. However, in developing this concept and understanding it further, the field has mostly focused their efforts on the medical literature. In doing so, it has largely ignored relevant paradigms from other disciplines. For example, in the areas of social, cognitive, and health psychology, there have been decades of research developing theory and models to explain behavior change, persuasion, motivation, and communication styles [6–8].

There has been much discussion around improving the rigor of guidelines [9], and consequently, there are a number of tools to increase how the evidence supporting guideline recommendations is synthesized, analyzed, and presented. These include AGREE II [10], GRADE [11], GLIA [1], ADAPTE [12], and CAN-IMPLEMENT [13]. However, these tools are mostly informed by the medical literature [1,2] and target methodological and reporting concerns. Currently, no resources take a comprehensive view of all factors relevant to guideline implementability and investigate this from other disciplines focused on changing human behavior, such as psychology, marketing, design, and human factors engineering. To better understand the concept of implementability and the relationship between characteristics of guidelines and their uptake by clinicians (who represent a primary end users of CPGs), our primary objective was to identify factors associated with the implementability of CPGs and recommendations through a comprehensive and multidisciplinary perspective. Our secondary objective was to determine what characteristics are posited to improve uptake by whom and under what circumstances.

2. Methods

We conducted a realist review [14], which is an explicitly theory-driven approach to the synthesis of evidence as it seeks to interrogate the underlying mechanisms of the programs or interventions being studied [14]. Our protocol is published elsewhere [15]. We report our methods and findings according to the RAMESES (Realist And Meta-narrative Evidence Synthesis: Evolving Standards) criteria for the publication standards of realist reviews [16] and include a flow diagram of our methods for increased clarity (Fig. 1).

2.1. Search strategy

Consistent with methodological standards, we used a multiple search strategy that consisted of five iterative stages of searching (see Fig. 2): stage 1: we consulted guideline development and knowledge translation (KT) experts to identify a set of core articles in guideline

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