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Methodological systematic review identifies major limitations in prioritization processes for updating

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Abstract

Objectives: The aim of the study was to identify and describe strategies to prioritize the updating of systematic reviews (SRs), health technology assessments (HTAs), or clinical guidelines (CGs).

Study Design and Setting: We conducted an SR of studies describing one or more methods to prioritize SRs, HTAs, or CGs for updating. We searched MEDLINE (PubMed, from 1966 to August 2016) and The Cochrane Methodology Register (The Cochrane Library, Issue 8 2016). We hand searched abstract books, reviewed reference lists, and contacted experts. Two reviewers independently screened the references and extracted data.

Results: We included 14 studies. Six studies were classified as descriptive (6 of 14, 42.9%) and eight as implementation studies (8 of 14, 57.1%). Six studies reported an updating strategy (6 of 14, 42.9%), six a prioritization process (6 of 14, 42.9%), and two a prioritization criterion (2 of 14, 14.2%). Eight studies focused on SRs (8 of 14, 57.1%), six studies focused on CGs (6 of 14, 42.9%), and none were about HTAs. We identified 76 prioritization criteria that can be applied when prioritizing documents for updating. The most frequently cited criteria were as follows: available evidence (19 of 76, 25.0%), clinical relevance (10 of 76; 13.2%), and users' interest (10 of 76; 13.2%).

Conclusion: There is wide variability and suboptimal reporting of the methods used to develop and implement processes to prioritize updating of SRs, HTAs, and CGs.

Keywords: Clinical guidelines; Methodology; Prioritization; Systematic review; Technology assessment; Updating

1. Introduction

Systematic reviews (SRs), health technology assessments (HTAs), and clinical guidelines (CGs) are closely related health decision-making tools that help patients, health care providers, and other stakeholders to make informed decisions. These documents share common steps in their development (i.e., assessment of the available evidence and systematic synthesis) [1−3].

As new evidence can change the conclusions of SRs, HTAs, and CGs, rigorous updating strategies are crucial in the maintenance of these documents [4−6]. We define updating as an iterative process with a systematic and

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What is new?

Key findings

- We identified 14 studies about prioritization process for updating (eight for SRs, six for clinical guidelines [CGs], and none for health technology assessments [HTAs]).
- We identified 76 prioritization criteria that can be applied when prioritizing SRs or CGs for updating.
- There is wide variability and suboptimal reporting of the methods used to develop and to implement prioritization processes in SRs, HTAs, and CGs.

What this adds to what was known?

- We provide an exhaustive description on methods to prioritize SRs, HTAs, and CGs for updating.
- We proposed hierarchical classification of the studies based on three levels: updating strategy, prioritization process, and prioritization criteria.
- We proposed different domains to standardize the prioritization criteria.

What is the implication and what should change now?

- Updating strategies may include a rigorous and transparent prioritization process to efficiently maintain SRs, HTAs, and CGs up to date.
- Further rigorous methodological research is required to optimize the prioritization process for updating.

explicit methodology that includes identification, review, and assessment of new evidence that is not included in the original document [7−9]. If the new evidence is relevant, the document needs to be reviewed and, if necessary, modified. Moreover, the updating strategies provide an opportunity to improve the overall methodology and edition of the document (e.g., correction of mistakes or enhancement to the writing).

Cochrane Handbook suggests updating of SRs every 2 years, although there might be exceptions to this rule (e.g., SRs need more frequent updates if relevant research is being published frequently or alternatively SRs are still current in some topics where new data emerge slowly or are unlikely to emerge) [2]. However, most SRs are updated less frequently than recommended [10−12]. The updating of SRs is resource intensive and time-consuming [10,11]; therefore, different stakeholders are starting to advocate for an approach based on the prioritization of SRs or topics for updating as opposed to predetermined time frames [13,14].

Currently, little is known about the updating of HTAs. Although some HTA developers or initiatives included this aspect in their reports, they do not provide specific guidance on how to implement it [1,15,16].

Several studies have assessed the validity of CGs and their recommendations, specifically the length of time they remain valid [4,5,17−19]. Based on this evidence, most CG developers adopt updating policies based on predetermined time frames [9]. However, the decision to update a CG is a complex process that needs to consider other factors like the volume of new research, available resources, or the balance between updating and developing CGs de novo [20]. In this context, there is a growing interest in approaches that help stakeholders determine which CGs or topics should be prioritized for updating [21]. As an example, Agbassi et al. [22] developed and implemented two questionnaires: one to classify CGs in order of priority for updating and another one to determine the effect of newly available evidence on CGs recommendations.

Methods to prioritize health decision-making tools for updating would ensure that resources are invested to update the documents that are most relevant to different stakeholders. Until now, the prioritization processes for updating reported in literature have not been systematically reviewed. We therefore undertook an SR to identify and describe processes to prioritize updating of SRs, HTAs, and CGs.

2. Methods

2.1. Information sources and search strategy

We searched in MEDLINE (accessed through PubMed, from 1966 onward) and The Cochrane Methodology Register (accessed through The Cochrane Library, Issue 8 2016) in August 2016. We did not establish limitations according to the language or publication status. The search strategy is available in the supplementary data (Supplementary Data 1 at www.jclinepi.com). Additionally, we hand searched the G-I-N Conferences abstract books (2011 onward), HTA International Meetings abstract books (2011 onward), and reference lists of the included studies. We also consulted experts and contacted authors of the included studies.

2.2. Eligibility criteria

Inclusion criteria: Studies that described or implemented one or more strategies to prioritize updating of SRs, HTAs, or CGs.

Exclusion criteria: SRs, HTAs, or CGs methodological handbooks; updated SRs, HTAs, or CGs; letters; comments; or editorials.

2.3. Study selection

Two reviewers (L.M.G. and H.P-.H.) independently screened titles and abstracts to identify potentially eligible