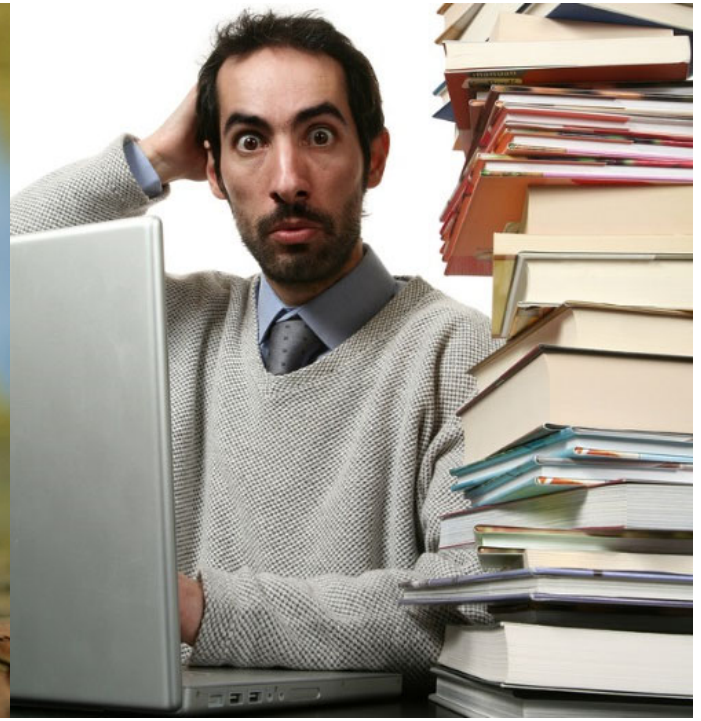
KCE REPORT 284

Federaal Kenniscentrum voor de Gezondheidszorg
Centre Fédéral d'Expertise des Soins de Santé
Belgian Health Care Knowledge Centre

TOWARDS TAILORING OF KCE GUIDELINES TO USERS' NEEDS



KCE REPORT 284
METHOD

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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AHRQ	Agency for Health Research and Quality
AWMF	Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften [Assocation of the Scientific Medical Societies – Germany]
CBO	Centraal Begeleidings Orgaan [The Dutch Institute for Health Care Improvement]
CPG	Clinical Practice Guideline
EBM	Evidence Based Medicine
GDG	Guideline development group
GP	General practitioners
HAS	Haute Autorité de Santé
IKNL	Integraal Kankercentrum Nederland [Netherlands Comprehensive Cancer. Organisation]
IQWIG	Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen [Insitute for Quality and Efficiency in Health Care]
KNGF	Koninklijk Nederlands Genootschap voor Fysiotherapie [Royal Dutch Society for Physical Therapy]
NHG	Nederlands Huisartsen Genootschap Dutch college of GP
NHMRC	National Health and Medical Research Council
NICE	National Institute for Health and Care Excellence
NIHDI	National Institute for Health and Disability Insurance
SIGN	Scottish Intercollegiate Guidelines Network
V&VN	Verpleegkundigen & Verzorgenden Nederland [Nurses and Care Providers Netherlands]
ZINL	Zorginstituut Nederlands
ZonMW	Nederlandse organisatie voor gezondheidsonderzoek en zorginnovatie [The Netherlands Organisation for Health Research and Development]

GLOSSARY

Clinical decision tree	Algorithmic representation of guideline knowledge
Clinical algorithm	Process intended to guide sequential clinical intervention to reduce variability and to ensure the rapid uptake of guideline knowledge. This graphical representation uses predefined forms (rectangle for actions and diamond for conditions) and connectors.
Decision aid	Translated evidence into patient-friendly tools to guide patients in the decision-making process informing them about treatment options and helping them to weigh benefits and harms
Decision support	Tools supporting clinicians in their decision making with respect to diagnosis and therapy
Dissemination	Spreading of knowledge or research, such as is done in scientific journals, at scientific conferences and by use of online tools
Evidence based medicine (EBM)	Conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients
Guidance	Focused guideline on a particular population, particular intervention or particular setting
Guideline	Systematically developed statements to assist healthcare providers and patients to decide on appropriate health care for specific clinical circumstances
Implementation	Refers to that part of the guideline lifecycle in which systems are introduced to influence clinicians' behaviour toward guideline adherence
Implementability	Refers to guideline characteristics that promote its use by target end-users
Share decision making	When not clear cut in evidence, informed joint decision made by both clinician and patient taken into account best available evidence together with patient's context, values and preferences.

SCIENTIFIC REPORT

1 BACKGROUND, SCOPE AND METHODS

1.1 Introduction

A Clinical Practice Guideline (CPG) is a systematic method to develop statements to assist practitioners' decisions[1]. Since 2009, the Belgian Health Care Knowledge Centre (KCE) developed 31 CPG according a strict methodology which is detailed in a process book available online[2]. The vast majority of these CPG were developed for physicians and 21 on 31 were focused on oncology as a result of a collaboration with the Plan Cancer/Kankerplan starting in 2008. In 2015, KCE has initiated a reflection process about CPG production as a consequence of a thorough self-assessment using the Common Assessment Framework (CAF). CAF is a total quality management tool to assist public-sector organisations to improve their performance[1].

This self-assessment stressed the need to adapt the production of CPG to the needs and expectations of health care practitioners. In addition, issues related to communication, dissemination and perception of KCE CPG among healthcare practitioners also emerged.

1.2 Scope of the study

This research project was developed to address the concerns identified during the CAF process. For this purpose, the perception, content and format of CPG were studied according the following research questions:

1. What are the methods and tools helping to improve the perception, the contents, and the format of guidelines to reach the expectations and the needs of health care professionals?
2. How are (KCE) guidelines perceived amongst health professionals (physicians, nurses, physiotherapists, and midwives)?

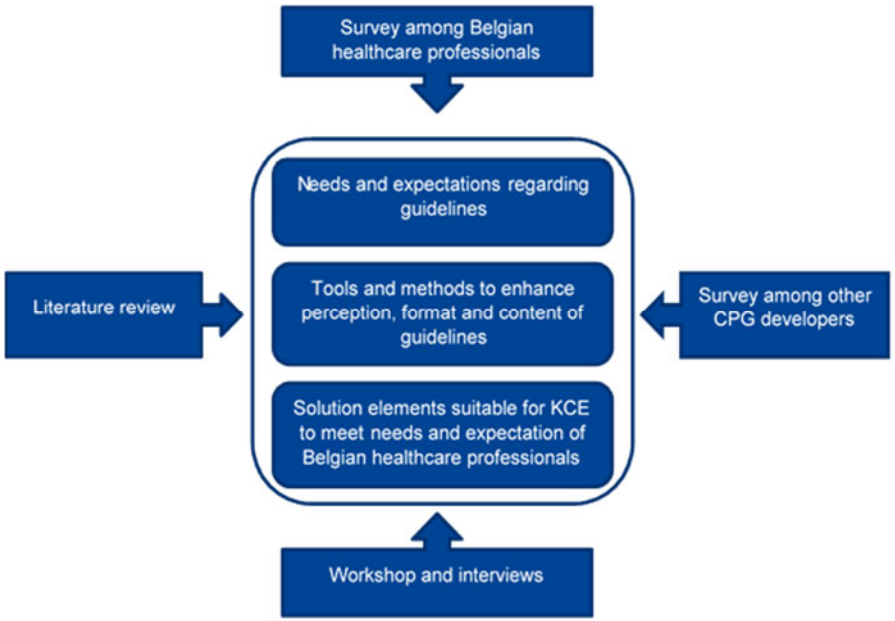
1 http://www.eipa.eu/en/topic/show/&tid=191

3. What are the needs and expectations for KCE guidelines amongst health professionals in term of contents and format?
4. What are the potential areas for improvement in the contents, the format and the dissemination of KCE guidelines to reach the healthcare professionals' needs and expectations?

1.3 Methodological approach

Aiming to answer to the previous mentioned research questions, this report makes use of a mixed-method study approach as shown in Figure 1.

Figure 1 – Mixed-method study design to match content and format of KCE guidelines to the needs and expectations of Belgian healthcare professionals



1.3.1 Literature review

The purpose of this narrative review is to provide a theoretical framework to support the research. In addition, methods and tools to improve knowledge translation were searched for. Due to the increasingly rapid developments in scientific know-how regarding knowledge translation, the search was limited to the last 5 years.

Dissemination and implementation of clinical practice guidelines in Belgium were described in a previous KCE report (212)[1]. A summary of findings is provided in section 2.2.3. No update was performed.

The findings of the literature review provide input to enrich the surveys and the workshop aiming to design new orientations in KCE guideline development.

1.3.2 Survey among other guidelines developers

An electronic survey was designed to assess other Belgian and international guideline developers about the methods and tools used to meet the needs and the expectations of final-users. The targeted agencies were not only those that develop guidelines for physicians but also those that focus on nurses and physiotherapists. The survey dealt with the following elements:

1. Topics selection for guideline development;
2. Updating process of a guideline;
3. Scoping of a guideline;
4. Involvement in content development;
5. Output format of guidelines;
6. Reporting content in guidelines;
7. Communication content for guidelines;
8. Guideline dissemination;
9. Guideline implementation.

The results of the survey were then discussion with stakeholders for interpretation purposes.

1.3.3 Survey among Belgian healthcare professionals

Perception, needs and expectations of Belgian healthcare professionals for CPG were assessed by an electronic survey. The healthcare professions under study are those targeted by EMBPracticeNet and for which KCE had previously developed guidelines, namely physicians, nurses, physiotherapists, pharmacists and midwifes. EMBPracticeNet is collaborative network of CPG developers and disseminators that achieved to build a central Belgian database that includes a large number of CPG dealing with a broad spectrum of health issues adapted to the Belgian context. This database is complimentary accessible for all healthcare professionals. NIHDI (RIZIV/INAMI) finances the database development and maintenance. Coordination and methodological supervision is entrusted to CEBAM (Belgian Centre for evidence-based medicine) in collaboration with Belgian EBM providers and the national board for promotion of quality.

1.3.4 Stakeholder consultation

Based on the results of the literature review and the online survey, we revised the current KCE GCP development procedure. More particularly the online survey allowed us to take into account the needs and expectations of Belgian healthcare professionals.

The first draft of the revised procedure was discussed internally during a workshop with the KCE team of GCP developers (n=4). During the 2.5 hours workshop each step in the development process has been presented, including arguments from the literature and the online survey to motivate the proposed changes. Thereafter participants could comment on the revisions. The discussion was structured by means of predefined questions (see Table 1). The workshop was audio-recorded to allow re-listening during the finalization of the revised procedure.

Table 1 – Overview questions per steps in the GCP development process

1. Collection of topics
• How to coordinate KCE work plan and central call? For example, if a project is introduced at KCE as HAS or HTA but experts consider that it is a guideline proposition?
2. Prioritization of topics
• Who may support the 'management at national level' to find international collaboration? • Must guideline developers be consulted to give advice over hard and soft outcomes? • What about health objectives?
3. Selection of topics for KCE
• Do you think that topic attribution must be done according to predefined criteria? • If yes, which criteria? (i.e. potential international collaboration)
4. Composition and functioning of GDG
• Should all proposed actors play their role in the composition of the GDG? Or only some of them? • Do we miss activities or actors in this step? • How does the response regarding the recommendation editing affect the GDG composition and the way to consult the GDG members? • How can we facilitate participation in GDG activities? In which ways can we gather input from the GDG, other than the usual meetings? E.g. change timing, place, language of meetings, use other participation methods such as online survey, etc.

5. Scoping

- General comments on step 5?
- What is the choice between actors?
- Do we have to change our scoping method?

6. Evidence synthesis

- How to deal with the internal procedure when international collaboration occurs? Must a specific internal procedure be set up in this specific case?

7. Deliberation and contextualisation

- General comments on step 7?
- What is the choice between actors?
- Do we have to adapt our process based on other developers' process?

8. Recommendation editing

- Who should take the lead in the editing of the recommendations? KCE? Or Scientific societies. Here the question of OWNERSHIP comes in.
- KCE could draft the recommendations and then discuss them with GDG (current procedure) or based on the evidence, the drafting of recommendation is done during the GDG meeting with the methodological support of KCE?

9. Validation

- In a future central diffusion point for guideline, they must all be validated for the methodology. Is the CEBAM validation possible for all guidelines?
- Do you think that a continued validation for method is better? If yes, how to organise it?
- Is it the same for content validation? If yes, how to organise a continued validation for content?

10. Approval by board

- General comments on step 10?

11. Format of the full report

- Do we want to keep the full report?
- What should be the format of the full report?
- Must we add our current KCE template?

12. Authorship

- Do we need to review our procedure regarding the authorship to enhance ownership and dissemination?

13. Format of the end-user products

- What are the needed products for end-users? (Full report? Summary or synthesis? Tools? Patient leaflets & shared decision making tools?)
- Which formats do we want for these products at KCE?
- Must we create templates for each type of products?

- The need to develop such product must be planed during the scoping meeting? At the first GDG meeting? During the topics attribution?
- Who are responsible
  to assess the need for tools?
  for the development of the tools? Including the testing

14. Dissemination

- Is dissemination out of scope for KCE? If not, what about KCE website as a dissemination platform?
- If a centralisation of dissemination of guideline at national level, what form must have the platform?
- If EBMpracticeNet a suitable solution? Please explain

15. Implementation

- Can assessment of recommendation implementation be an HRS topic for a KCE report or is this kind of assessment out-of-scope of KCE missions?

In addition, measures to increase ownership among GDG members were discussed with 2 former GDG members during telephone interviews (lasting approximately 30 minutes each).

Table 2 – Guiding questions for telephone interviews regarding GDG involvement

How can we enhance the involvement of GDG members? How can we increase ownership among GDG members? Change

- Timing of the meetings
- Place of the meetings
- Language of the meetings
- Use other formats to involve people, e.g. online surveys or skype meetings
- Composition of the GDG
- The use of incentives?

How can we increase the involvement of patient representatives?

Should we put the GDG in the role of ambassadors to help disseminate the guideline?

2 FROM EVIDENCE TO PRACTICE

2.1 Introduction

Based on the definition by David Sackett (1996), Evidence-Based Medicine (EBM) is "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients"[3]. EBM practice implies the integration of individual clinical expertise, best available clinical evidence from systematic research and patients' preferences and values[4]. Due to the increasing emphasis on a multidisciplinary care approach, the term EBM has shifted in recent years towards Evidence-Based Practice (EBP)[5]. The evidence-based practice approach is a complex and highly structured process, starting from focused clinical research questions and resulting in a set of specific recommendations, intended to optimize clinical decision making. However, despite the substantial efforts and resources that are invested in the development and dissemination of clinical guidelines, research shows that effectivity in improving the overall quality of delivered care is hampered[6].

To date, clinical practice guidelines are considered to be one of the foundations in the process of health care improvement[7].The development of evidence-based guidelines, from clinical questions to clinical recommendations, has evolved substantially in the last decades towards a meticulous and highly structured process of high quality knowledge generation. However, in a significant part of clinical guidelines, the format of the output of the process is still focused on the educational needs of clinicians[8]. Clinical guidelines are often provided as voluminous 'plain text' reports, containing all available information on a specific medical problem, together with a broad set of methodological information and considerations, resulting in an overload of information, that is difficult to manage for the clinician working in the practice field[9].

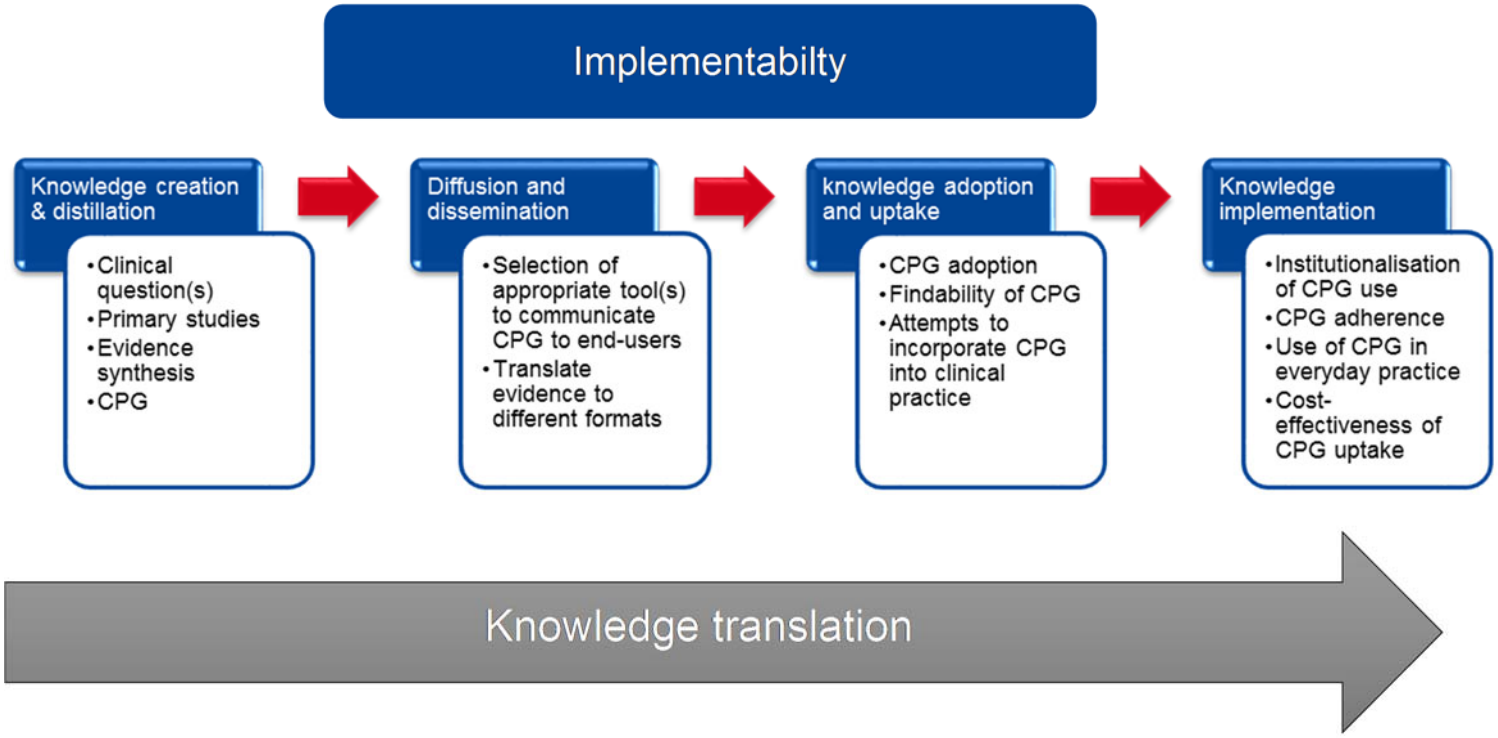
Moreover, guidelines are designed from a "medical-professional point of view" and often lack easily accessible and understandable information for patients and informal carers[8]. Although the primary emphasis of EBP is on the use of scientific evidence in clinical decision making, there also is a prominent place for the patient. As most of the clinical decisions are not clear cut (in terms of pro's and con's), patients and clinicians often have to discuss the different treatment options to make informed joint decisions. This process, called "shared decision making", takes into account the best available evidence together with patients' context, values, and preferences and has become increasingly important in recent years[8]. Shared decision making, also called 'preference sensitive' decision making, occurs mainly in 'conditional' recommendations, i.e. in case of lack of evidence (weak rather than strong recommendations), availability of more than one valid treatment option (dilemma), or in case patients have preferences or values that differ from preferences of health care providers (e.g. side effects versus beneficial effect of treatment)[10]. Research shows however that the 'shared decision making' approach is not easy to conduct. On the one hand, health professionals need to develop specific attitudes, competencies and skills to handle this consultation model and provide trust and clarity to the patient in the decision making. On the other hand, specific tools have to be made available during the clinical encounter to support clinicians in this process[8].

Easy, fast and timely access to the right evidence at the right moment in the right format is a critical success-factor in EBP dissemination, as health professionals need specific "on-the-spot" information to underpin their treatment proposals in an environment of high workload and time pace[11]. Specific strategic efforts have to be made by all stakeholders, involved in the EBP generation process, to distribute the evidence-based message to the end user. These consciously chosen 'tailored' attempts to actively spread the evidence based recommendations under a certain population are called 'dissemination', in contrast to 'diffusion' of knowledge, which is a spontaneous distribution and unaided adoption of information[12]. Research suggests that dissemination often fails, resulting in an inefficient and unsuccessful uptake of the EBP messages by end-users[13]. Despite the enormous investment in guideline production, only a limited number of clinical recommendations have been successfully tailored to ensure optimal usability to clinicians and very few have been tailored for optimal usefulness to patients[14, 15]. However, acceptability, usability and implementability of guidelines might be equally important as provision of scientific sound knowledge to achieve success in EBP [16-32].

2.2 An overarching model of Evidence-Based Practice

Figure 2 presents the difference stages from discovery of new knowledge to its application in real-word practice. The four consecutive stages (knowledge creation, dissemination, uptake and implementation) are closely connected. It must be stated however that a preliminary stage ‘prioritization of topics’ precedes this model and an ‘evaluation process’ completes the model. This implies that guideline developers have to reflect on each step of the process in order to increase the impact of their end product. The different stages are linked by transversal processes such as knowledge translation and implementability. Each concept of the model is briefly described in this section.

Figure 2 – Overarching model of Evidence-Based Practice process



2.2.1 Knowledge creation & distillation

Knowledge creation refers to the rigorous process of CPG development based on evidence reported in primary studies regarding a clearly defined clinical question. The methods supporting definition of a clinical question, extraction data from literature, pooling of evidence from primary studies, and writing of recommendations are extensively described in the KCE process book[2].

2.2.2 Diffusion and dissemination

'Dissemination' is the targeted distribution of information and intervention materials to a specific public health or clinical practice audience, in contrast to 'diffusion' of knowledge, which is a spontaneous distribution and unaided adoption of information[33]. The intent is to spread knowledge and the associated evidence-based interventions. A previous KCE report– dissemination and implementation of clinical practice guidelines in Belgium[1] – studied the effectiveness of dissemination strategies based on the Cochrane Effective Practice and Organisation of Care (EPOC) classification[34].Some strategies have statistically significant but small impact on clinical practice while others have no effect. .

Scarce evidence showed that audit and feedback, reminders and educational meetings had a positive, though very limited impact on patient outcomes[35]. Another format, often used by developers or their organisations to communicate evidence based guidelines is mail. A Cochrane Review of eight studies reported small to moderate effects of mass mailing of summaries of evidence on improvement of practice and compliance with recommendations, but only when there is a single clear message, when the change in practice is relatively simple to accomplish, and when there is awareness by end-users that change in practice is needed [36]. A study on dissemination of guidelines by use of social media did not find additional benefits over print, email and internet based methods on increasing guideline awareness, changing behaviour in clinicians and patients and increasing knowledge levels. However, one has to take into account that the result can depend on the audience[12].Finaly, multifaceted interventions were supported by many literature reviews. However, there is a lack of evidence on which would be the crucial components or optimal combination of strategies that would most likely improve adherence to guidelines.

Based on insights from literature and interviews, the KCE report recommended a unique platform for the comprehensive dissemination of clinical practice guideline in Belgium including clear messages, various formats and a label for high-quality guidelines.

2.2.3 Uptake

The CPG uptake refers to the adoption and attempts to use recommendations included in a CPG by end-users. The CPG uptake is influenced by implementability aspects related to creation and communication of content such as stakeholders' involvement, evidence synthesis, consideration of values, implementation feasibility, message, and format[37]. These concepts are extensively described in the section dedicated to implementability. In the UK, NICE assessed the guidance uptake based on publications that measure the uptake of their guidance or based on data retrieved during audit related to NICE recommendations[38].

2.2.4 Implementation

Implementation and dissemination are closely intertwined. As a consequence, some authors refer to dissemination and implementation science. However, implementation and dissemination are two distinct concepts. While dissemination refers to the tools and techniques used to communicate evidence to end-users, implementation refers to the transfer of empirically supported interventions into real-world settings[39] . Implementation is thus the part of the guideline lifecycle in which systems are introduced to influence clinicians' behaviour toward guideline adherence[40].

2.2.5 *Knowledge translation*

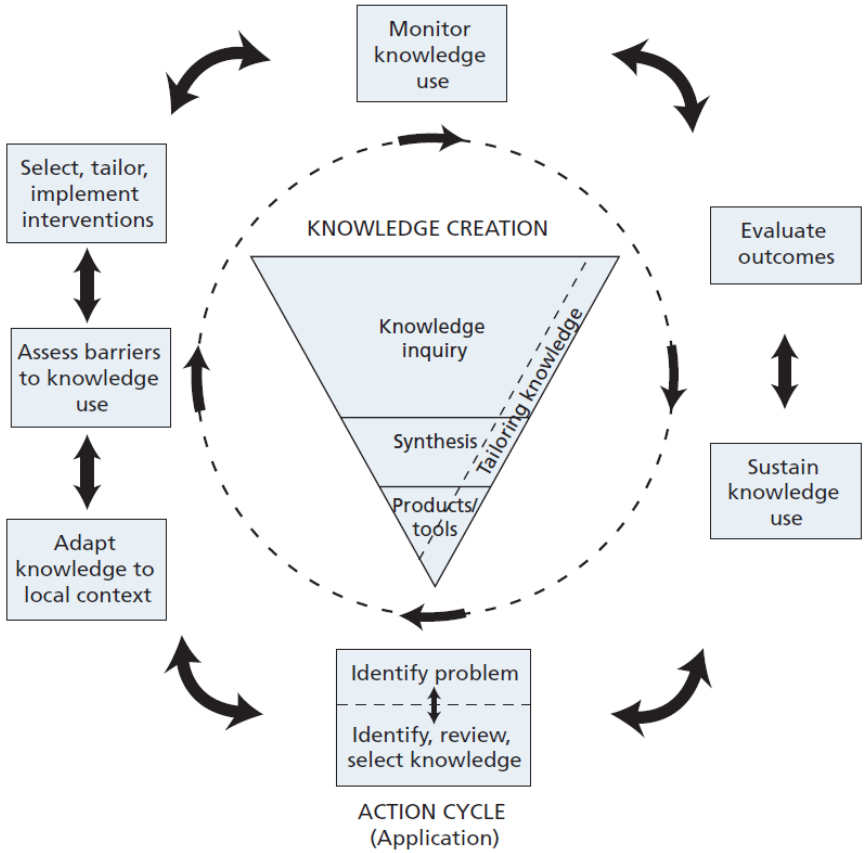
Knowledge translation is a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve health […], provide more effective health services and products and strengthen the health care system[41]. Knowledge translation refers to actions that can be taken to fill the gap between evidence and provision of care[42]. Other terms for knowledge translation were found such as research utilization (use), dissemination and diffusion, knowledge transfer or knowledge uptake...[42] The interest in knowledge translation is based on the observation that knowledge creation (generated by primary studies), knowledge distillation (provided by systematic reviews or CPG) and knowledge dissemination (such as congress presentations) are not enough on their own to ensure the use of knowledge in the daily practice[42].

The knowledge-to-action framework

The knowledge-to-action framework was modelled to highlight the close link between knowledge creation and the knowledge translation [43]. As mentioned before, knowledge creation is composed of 3 phases: knowledge inquiry (completion of primary research), synthesis of knowledge (systematic reviews according quality standards) and creation of knowledge tools (CPG, decision aids or algorithms). The knowledge translation (or action cycle) encompasses 7 phases that can occur sequentially or simultaneously. Knowledge creation stages can influence the action cycle at any point. The following tailored actions included in the cycle can be used to deliberately cause changes in care provision:

- identifying the problem;
- identifying, reviewing and selecting the knowledge to implement;
- adapting or customizing the knowledge to the local context;
- assessing the determinants of knowledge use;
- selecting, tailoring, implementing and monitoring interventions related to knowledge translation;
- evaluating outcomes or impacts of using the knowledge;
- determining strategies for ensuring sustained use of knowledge.

Figure 3 – The knowledge-to-action framework [42]



2.2.6 *Implementability*

Implementability refers to a set of characteristics that "predict ease of (and obstacles to) guideline implementation" [44]. Several models support the concept of implementability. An exhaustive description of these models is not performed. However, for the purpose of this review three models are described in this section: Morville's Honeycomb model, the research-to-practice pipeline model and the Guide-M model.

Morville's Honeycomb model

An overarching generic concept, directly related to the effectiveness and adoption of information is "user convenience". The Morville's honeycomb model, which was first developed in the ICT sector, can be applied to knowledge translation in the EBP context[45]. As shown in Figure 4[45], seven separate facets of user experience in ICT applications can be distinguished: findability (can users find the knowledge they are looking for?), accessibility (are there physical barriers to gain access to this knowledge?), usability (how easy and satisfying is the product to use?), usefulness (is the knowledge found to be of practical value for the user?), credibility (is the source of knowledge found to be trustworthy?), desirability (is the user convenient with the features and the content of the source found?) and value (does the product advance the mission of the developer of the EBP product?). All of these facets have to be taken into account during the creation of a product to ensure an adequate knowledge transfer. Research reveals however that the health professionals' user experience of EBP resources regarding these aspects can be improved substantially [46].

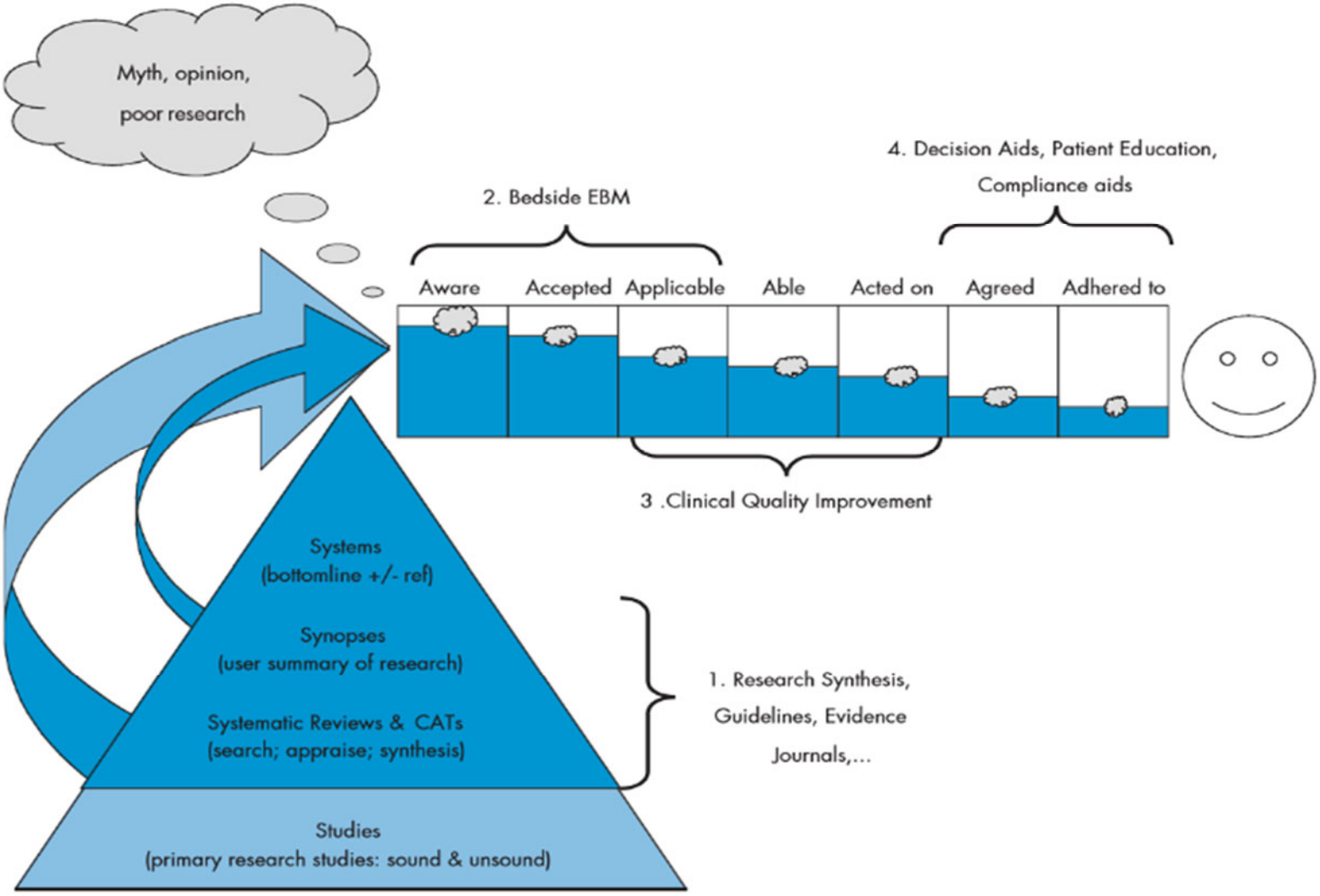
Figure 4 – Honeycomb model[45]

The Research-to-Practice Pipeline

As the Honeycomb model is a rather generic model, the "research-to-practice pipeline" model [47] specifically targets the knowledge translation in healthcare. Sometimes the term 'leaking' is added to the name of the model. As shown in Figure 5, the model defines 7 stages in the transfer from EBP recommendations to clinical practice. Every stage implies barriers that might lead to a drop-out of clinicians, resulting in a lower impact of EBP on patient outcomes. Although synthesis of evidence is prior to the transfer pipeline, a strong interaction between these two is needed to increase the odds of implementation success. A first crucial element in transfer is creation of awareness of clinicians regarding new EBP recommendations. There is ICT a strong need for a formal communication plan (including provision of tools and social media) to make clinicians aware of new findings and changes in their practice field. Acceptance of new approaches and interventions (in terms of benefit or harm) is the second element. Unfortunately, clinical decisions are often made, based on non-scientific motives such as persuasion, authority, marketing and social validation. Developers have to

identify methods to overcome this barrier (i.e. distinguish their EBP knowledge from other 'less sound' information). Applicability of the information is also important for the success of EBP implementation, e.g. a clear definition of the target group, description of pros and cons of the different treatment options, practical tools to facilitate guideline use, specific attention for format and design of recommendations. Availability of EBP knowledge and ability of end-users to find and handle it is the next step in the transfer process. Easy access to recommendations is primordial but end users also have to be educated and trained to search and use the evidence. This implies that a close collaboration is needed between guideline developers, academic institutions and professional organisations. Next is the 'acted on' phase. As habits are difficult to change, despite the best intentions, supportive tools, such as reminders and alerts, are needed for clinicians to draw attention to alternative (best evidence) treatment options. In the agreement phase, the clinician might be convinced of a certain approach, but the agreement of the patient is also needed in terms of compliance and therapy adherence. This implies the need for specific tools and information (decision support/ decision aids) to help the patient making informed decisions. The final phase of the knowledge transfer pipeline is adherence. Patients constantly have to contend with competing, often non-scientific, claims regarding their therapy that might hamper therapy adherence. Research shows that well informed patients more easily adopt the right health-related behaviour, resulting in higher levels of adherence than people who got inadequate information, especially in case of chronic illness [47].

Figure 5 – Research-to-Practice Pipeline model[47]

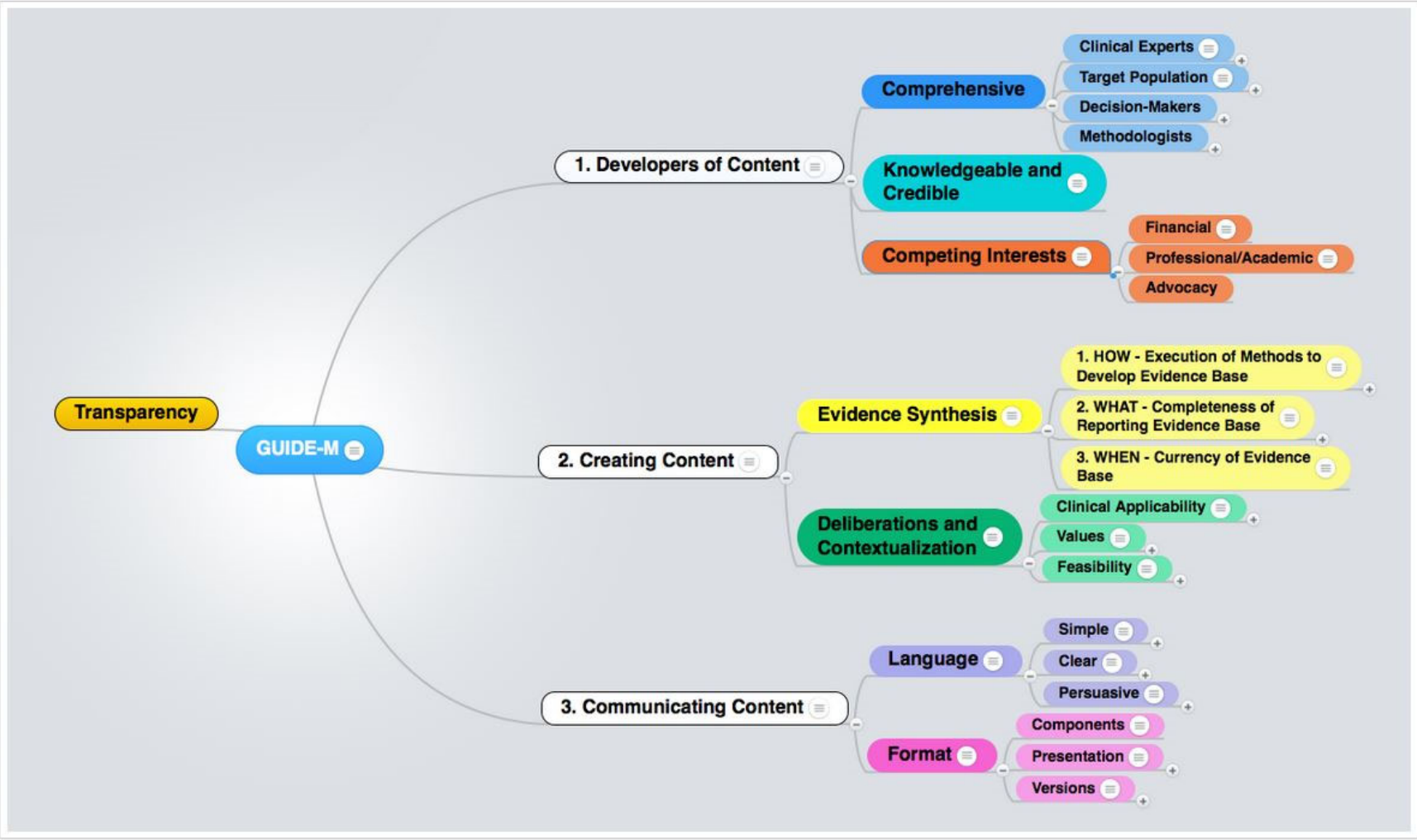


The GUIDE-M model

In an attempt to increase quality, acceptability, feasibility, usability and implementability of evidence based recommendations, Brouwers & Bhattacharyya developed, more recently, the comprehensive GUIDE-M model (Guideline Implementability for Decision Excellence Model) [48]. This model was based on a realist review of the literature and input of a collaborative network. It consists of components intrinsic to CPG that play a role in optimizing the implementability of these CPG [49]. The model consists of 3 core tactics (development of content, creation of content and communication of content), 7 domains (comprehensiveness, being knowledgeable & credible, managing competing interests, evidence synthesis issues, deliberation of contextualisation, language and format), 19 sub-domains, 44 attributes and 40 sub-attributes and elements. Figure 6 gives a clear visualisation of the model. An extensive description can be found at the website of the GUIDE-M organisation [50]. All of the elements, integrated in the model, have to be taken into account in the development of CPG, as they can impede or facilitate the effective implementation of evidence based practice in every day delivery of health care.

- **Despite the substantial efforts and resources that are invested in the development and dissemination of clinical guidelines, research shows that effectivity in improving the overall quality of delivered care is hampered**
- **The process of EBP consists of topic prioritization, knowledge creation & distillation, knowledge diffusion & dissemination, knowledge adoption & uptake, knowledge implementation and knowledge use effectivity evaluation. Every step is important and can hamper or facilitate the effective use of EBP by end-users (health care professionals, patients and relatives)**
- **Important enablers for the effective use of information in general are findability, accesability, usability, usefulness, credibility, desirability and value**
- **Knowledge transfer and uptake of developed EBP information consist of different consecutive stages were factors can hamper effective uptake: awareness, acceptance, applicability, and availability of information, ability of users to work with EBP, intention to act on EBP in practice, and agreement and adherence of end users.**
- **Implementability, set of characteristics that "predict ease of (and obstacles to) guideline implementation, is influenced by a broad set of aspects throughout the process of EBP development of content, creation of content and communication of content. All of these elements have to take into account to optimize uptake of EBP information by end users.**

Figure 6 – Guideline Implementability for Decision Excellence Model: the Guide-M model[48]



3 METHODS AND TOOLS TO IMPROVE GUIDELINES TO REACH EXPECTATIONS AND NEEDS OF HEALTH CARE PROFESSIONALS

3.1 Literature review

3.1.1 Introduction

In order to provide a clear structure in this literature overview, a preliminary search was conducted to identify overarching models regarding applicability and implementability of evidence based recommendations (see section 0). Although implementability and implementation cannot be considered as unrelated, the emphasis of the former is mainly on the developer of a guideline while the latter is mainly on the end-users of the product or their organisation. According to the aims of this review, the present study focuses on implementability.

3.1.2 Method

The databases Medline, Embase and Cochrane Library, were searched in February 2016 for original scientific publications that were published in the last 5 years, concerning aspects that might impede implementability of EBP guidelines, the solutions to overcome these barriers and the facilitators of the use of EBP recommendations. Furthermore, the search was supplemented by reviewing the references in the included studies. Combinations of the following search terms were used: implementation (science), (clinical) (practice) guidelines, recommendations, translational medical research, knowledge (exchange), optimiz*, enhance, better, improv*, accept*, access*, adher*, usage, utilization, utility, compliance, comply, attitude, follow*, percep*, uptake, use, decision support*, decision making, resource, software, format, content, system, “Translational Medical Research”[Mesh], “Guidelines”[Mesh], “Software”[Mesh], “Decision Support Systems, Clinical”[Mesh], “Decision support techniques”[Mesh], “Decision Making”[Mesh].

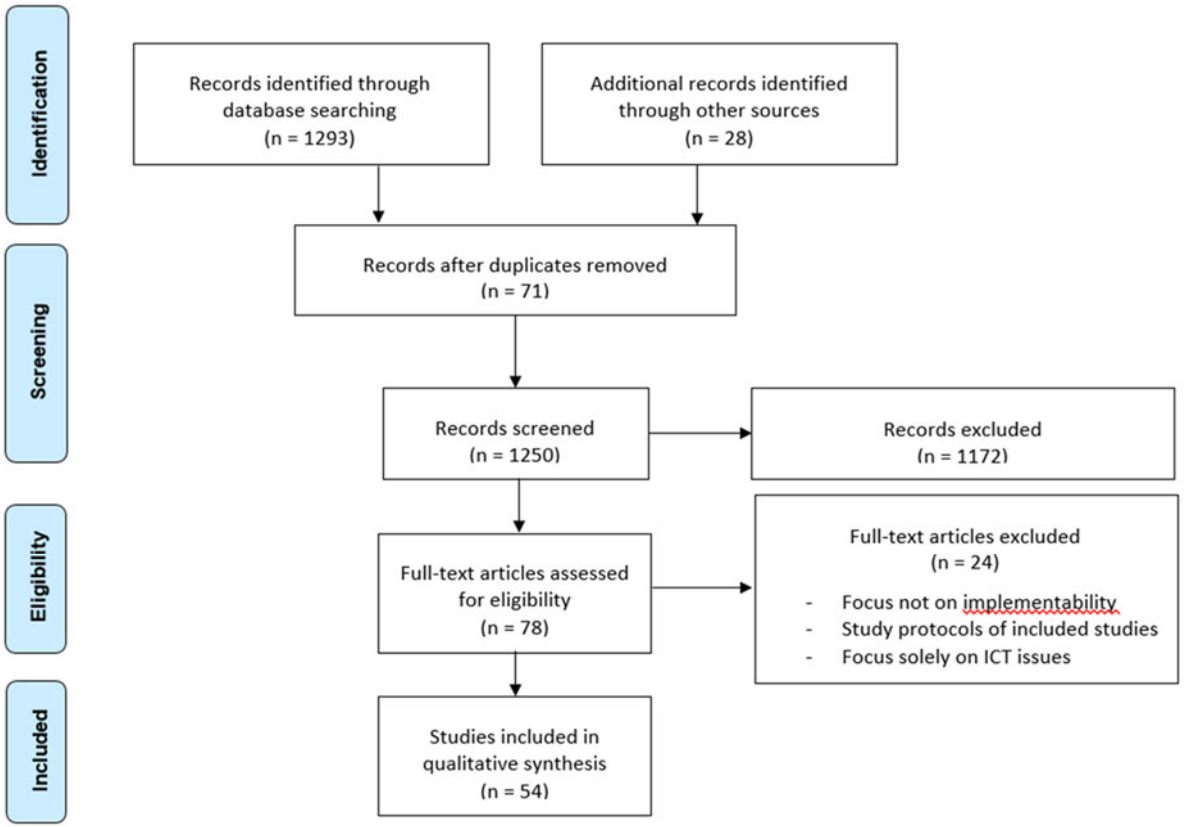
Studies were included only if the following criteria were met: Publication date 2010 or later, studies written in English or French and the subject of the study had to fit the aim of the review.

3.1.3 Results

3.1.3.1 Search results

Database search led to 1293 potential references from which 71 were duplicates. Additional papers (28) were found by hand searching. Among these, 17 papers described the entire CPG process and are not limited to implementability. Based on title and abstract, 1172 references were excluded. After full text examination, 54 papers were included. Reasons of exclusion are mentioned in Figure 7. References of included and excluded studies can be found in appendix 5.

Figure 7 – PRISMA flowchart.



3.1.3.2 Results

For the purpose of this review, the structure of the GUIDE-M model is used. This comprehensive model focuses on implementability of evidence-based recommendations and distinguishes between a broad set of potential facilitators or inhibitors. Several other models to identify implementation barriers have been presented in the last decade, such as the work of the GLIA group, GIRANet, IOM, FIN, GUIDE-IT and GRADE. However, these have (at least partly) been taken into account for the development of the GUIDE-M model [44, 49, 51, 52 53, 54]. The present overview refers to these models.

Developers of content

To improve implementability of CPG, *comprehensiveness, knowledgeable and credible membership*, and issues regarding *competing interests* are specific points of attention regarding composition of the CPG developer group [55].

- Comprehensive involvement of stakeholders in development

  Addressing stakeholder involvement of guidelines during all stages of the development process is very important for future uptake and adherence [53]. Input of local clinicians into development is also necessary for context adaptation [56]. This implies that the core developers have to decide in a very early stage of the process who to involve: clinical experts[b], target population of CPG, decision-makers and methodological experts[c]. Consumer involvement is found to be related to improved comprehensiveness, better adaptation to target populations and promotion of shared decision making [7, 55]. Gagliardi et al reported that uptake of guidelines could by hampered by the fact that few developers have dedicated implementation staff or are involved as developer group in the implementation of their products [57]. However, implementation could be more successful if actions regarding implementability were concurrent rather than consecutive to development, so that targets users were more primed for adoption [58].

  - Experts:

    Credibility is influenced by the clarity of information about the background and the expertise of the guideline developers. Relevant disciplines and expertise have to be involved as much as possible. Having a multidisciplinary membership also increases credibility because it makes the guideline less susceptible to stakeholder bias [55].

  - Target population

    A specific definition of the audience and target group for a CPG is very important for the implementation success, as it can be related to the scope, the objectives, the format and even the style of wording of a guideline. Developers have to distinguish between primary audiences (clinicians and patients for whom the guideline is nominally intended) and secondary audiences (e.g. other care professionals, policy makers), and both have to be clearly specified. However, research recommends to use the term ‘clinician’ instead of ‘doctor’ or ‘physician’ as guidelines become more and more multidisciplinary [7].

  - Stakeholder involvement during the guideline development process is necessary to get insight in the views and preferences of target populations (patients as well as informal carers). Input from these panels need to be taken into account in the end product. Composition and involvement of these panels have to be reported in the final guideline [57].

[b] The term ‘clinical expert’ refers to every health care professional (regardless of his/her discipline) with proven expertise in a specific CPG topic.

[c] Methodologists are scientists specialised in guideline development who safeguard the quality of the development process by rigorously monitoring the different steps of the methodology

- Sahota et al (2015) state that important differences exist between disciplines in the prevalence of seeking behaviour [56]. Some specialist disciplines (e.g. surgeons) and allied health professionals had significant lower rates of EBP use than others. The authors suggested a possible relationship with the culture of the disciplines, the type of consultation or the tradition of knowledge uptake (e.g. conferences, local events, peers). This can be taken into account when developing guidelines for these specialties. Frontline medical staff was also found to have lower evidence seeking, probably due to time pressure.
- Decision makers

  To enhance feasibility and implementability of recommendations, decision makers should be involved in the development process of evidence based guidelines [55].
- Methodologists

  Methodologists have to be involved in guideline development to safeguard the quality of the development process by rigorously monitoring the different steps of the methodology [55].

- Knowledgeable and credible

  Credible guidelines are those that are widely known, authoritative and influential and are published in respected sources. An important aspect regarding credibility is the provision of clear information about disciplines and expertise involved in the development group, their scientific independence and their potential conflicts of interest. Involvement of multidisciplinary panels is also found to increase credibility [55] [53].

- Competing interests

  Researchers, as well as experts, might have conflicting interests related to the topic of the recommendations, in terms of honoraria, consulting fees, research support, promotion… These conflicts should be clearly disclosed in the CPG, as this can result in doubt and loss of credibility. A statement about editorial independence (including the message that views or interests of funding bodies have not altered the end product) has to be added, together with sufficient information to underpin this message [55].

Creating content

An important point in the development of evidence based knowledge is prioritization of topics for CPGs. This can be based on scientific criteria, needs of health care policy makers, specialty society professional identification, and coverage of high profile cases (e.g. popular media based topics). The specific need for a guideline is strongly related to the awareness, the uptake and the adoption of the recommendations. Involvement of the end users (clinicians as well as patient groups) can enhance the implementation success rate [7, 53].

Regarding the creation of content for evidence based guidelines, there are two domains of guideline implementability that have to be taken into account for developers: *evidence based synthesis* issues, and issues related to *deliberations and contextualisation of the evidence* [55].

- Evidence synthesis

  Evidence synthesis reflects the attributes, necessary to enhance guideline validity and reproducibility and involves: definition of a clear scope, the use of techniques and approaches to ensure evidence-based results, development of valid and reliable end-products, provision of information that is comprehensive and covers the medical topic as much as possible, communication of the information in a transparent way, reporting of (potential) conflicts of interest, a clear approach to assess the weight of the evidence, and a clear and transparent process to translate the evidence to recommendations. Finally, recommendations have to be updated frequently in order to provide the most recent evidence [55]. In brief, evidence synthesis can be summarized in the three following dimensions:

- How: execution of methods to develop evidence base

  The methodology of guideline development is not taken into account for this review, as this is out of scope for the present project. However, it must be stated that transparency of reporting the different steps of the process is very important for the credibility and validity of the project.

- What: completeness of reporting evidence base

  Although out of scope for the present project, it is important to emphasize the consistency and comprehensiveness in the reporting of the different steps of the development process. The scope of the guideline has to be very clear, recommendations have to be highlighted and alternatives in approach have to be clearly described [55]

- When: Currency of evidence base

  Guidelines have to be up-to-date and a timeline for updating has to be defined in the last version of the guideline [53]. Users need to see which recommendations are changed and which remain identical after an update. Constantly changing recommendations is however not recommended as it can result in frustration, scepticism and non-adherence [55, 56].

- Deliberations and contextualisation

  By definition, a guideline is only one of the three elements to take into account in a clinical decision [3], as it has to be combined with clinical expertise and the values and beliefs of the patient, in a balanced and context-sensitive consultation model. Translation of evidence into action therefore involves value judgement, based on evidence, ethical considerations, psychosocial elements, beliefs and values, risk, burdens, costs and priority setting[28]. A guideline cannot take into account all of these elements but developers can provide information and tools to facilitate the combination of all this information. A key element is the involvement of an unbiased expert team using a transparent and well documented process with explicit strategies to deal with uncertainty, deliberation and judgement (i.e. which arguments have been taken into account for low evidence recommendations) [55].

  - Clinical applicability is an important predictor of guideline adherence[27].

    Clinical relevance and the appropriateness of a recommendation to a specific population are crucial for usability and acceptability of a CPG. Developers have to be aware that only a small part of the patient population consists of 'ideal patients', i.e. the patients that fit exactly the content of the guideline [55]. Guidelines should permit interpretation and allow for alternatives in its execution. Guidelines that do not apply to patient populations, are inconsistent and are not adopted effectively [53]. This implies that a guideline should leave flexibility to adapt to the patients specific situation (e.g. specific wishes, comorbidity, psycho-social aspects) and provide communication tools to facilitate this flexibility. [44 37, 57].

A Dutch study suggested that clinical applicability could be enhanced by designing a digital knowledge platform on guideline dissemination and implementation (tools) to support clinicians in their use of EBP[59]. This was confirmed by the GUIDE-IT study. When too many guidelines on the same topic are available in different places, this will result in doubt and non-adherence in clinicians. However, a minimum critical mass (in terms of available clinical topics) is needed to ensure adoption of evidence based guideline use. When clinicians are confronted often with the fact that no guideline is available for their clinical question, they will quit using EBP[53]. Such a platform is already setup in Belgium, however mainly for used by general practitioners[d,60]. It is important to connect with an experienced web developer to ensure an easy and intuitive website format and consider good web sustainability[61]. Conflicting evidence was found regarding the publication of guidelines in scientific journals. The Dutch HA-RING study [10] proposed to publish information about facilitating EBP tools in national and

[d] www.ebmpracticenet.be

international scientific journals, to include these tools in educational materials and meetings, to connect these tools to grant requirements and to provide sufficient resources and support to develop, implement and fine-tune these tools[59]. However, Shekelle et al did not promote the publication of CPGs as scientific papers, because of the time consuming procedure, risk for changes in wording of guidelines during the review process and mandatory changes of the format of the guideline[62].

Need for clinical question of immediate relevance to patients and professionals

A clinical guideline should also have a clear, specific clinical question of immediate relevance to patients and professionals and be easily applied to the clinical task[53]. Often, evidence is available for a limited number of scenarios, resulting in a lack of fit between daily practice and evidence based therapy. Clinical applicability is also related to the magnitude of treatment benefits, whether patient-centred clinical outcomes have been taken into account (quality of life, burden of care), whether validated methods and instruments were used to measure outcomes and whether all important potential outcomes (beneficial and harmful) were considered[14, 55]. Another point, perceived as important by clinicians, is when to refer patients to other health facilities[53]. Guidelines should also mention potential organisational barriers and cost aspects related to implementation. Most clinical guidelines do not include this information. Tools to facilitate decision making can increase applicability of the recommendations[44, 57].

Decision aids that take into account specific patient characteristics can be very helpful[14].

Research showed that the use of this tools is related to improvement in patient knowledge, patient satisfaction and reduction in decisional conflict. However, the included studies were often weak and a significant variability in effectivity of these aids was found[63]. This feature of a guideline, called 'shared decision making' (SDM) is very important, especially in low evidence situations where consideration of pro's and con's is more important. SDM-tools are built to facilitate shared decision making and need to give information about benefits, harms, burden of therapy, alternatives in diagnosis and treatment, described in an easily understandable way[53]. A systematic research of 115 SDM-tools showed a 13% absolute increase in patients' knowledge and an 82% relative increase in accurate expectations of possible benefits and harms. Effects on clinical outcomes and adherence were however not consistent[64]. Developers experience that when SDM-tools are not directly (physically) connected to the content of a guideline, these are hard to produce, often onerous to update and not used widely[8]. Most of the SDM-tools that are developed in the last decade are made to be used outside of the consultation room (or at home) to prepare patients for a consultation. This is however not the most optimal form of shared decision making. Moreover, most of these SDM-tools were found to be of poor design, to lack easy access, to be rapidly outdated and often not based on current evidence. In recent years, newer SDM-tools have been developed that can be used during the clinical encounter[65]. For example, Montori et al. developed a graphic display of benefit and harm for point-of-care use for diabetes patients[66]. Mayo Clinic also developed a set of SDM-tools [67]. These paper version tools rely on a unique conversation between the clinician and the patient and can be used to give tailored, just-in-time, explanation and information to a certain patient. Preliminary results of this approach were positive in terms of quality of joint decision-making[8].

GRADEpro GDT: an easy to use all-in-one web solution for summarizing and presenting information for health care decision making [68]

GRADEpro GDT can enhance applicability of evidence-based recommendation. It supports creating concise summary tables for systematic reviews and health technology assessments, and it can be used for consultation/deliberation between clinicians as well as for shared decision processes with patients. Moreover, it is also found to be useful in case of weak evidence[8].

Combination of scientific evidence and recommendations with on-the-spot care delivery

A specific way to combine scientific evidence and recommendations with on-the-spot care delivery is the use of option grids [69]. These are one page summaries that provide answers to patients 'frequently asked questions' (e.g. disease and therapy burden). A good initiative is patient.info (http://patient.info/about-us), which is an independent platform for patient information. These option grids were recently applied in an implementation program named "Making Good Decisions in Collaboration" (MAGIC). Clinicians perceived these option grids as an easy way to explain the existence of options to patients and reported an improved 'handover' effect, where patient involvement in decision making was enhanced[70].

The closer the connection between the electronic health record (laptop or mobile or even smartphone) and the SDM tool, the higher the accessibility and uptake[53, 56, 65]. Based on the previous experiences, the project 'Making GRADE the Irresistible Choice' (MAGIC) was setup [71]. These group developed an online app [72] to create electronic decision aids for use during the clinical encounter. Through this system, the scientific medical information used is directly (physically) connected to the underlying guideline. More concrete, MAGIC-app offers the possibility to write evidence-based summaries in a structured database, appraise these with GRADE, publish these on a web platform and present/create information in interactive formats (depending on the specific need or the recipient) [8]. A final layer in this system for shared decision making is a framework for the automated production of generic decision aids (presentation formats/visualisations to be used in the clinical encounter) based on underlying electronically published evidence summaries, called SHARE-IT [73]. Preliminary research results show high levels of patient satisfaction, an increase in understanding of risk and confidence in decisions taken[8].

- Values

  Practice guidelines do not always fit with patient/population expectations and may even seem contradictory, with respect to specific personal needs or expectations, which might impede uptake of new knowledge by end-users[53]. A lack of fit can result in negative reactions, discussions and conflicts with clinicians or even in patients switching from health care provider[74]. Developers have to take into account the effort that patients must make to change their behaviour or their mind-set, in terms of motivation and capabilities to achieve goals. Including easily comprehensible patient leaflets in guidelines or even the creation of patient guidelines can facilitate the uptake of certain messages [75] The design of a healthcare professional-led support program can also be considered [55].

  Recommendations should be considered as a support for the clinicians and for shared decision-making, not as a mandatory medical cookbook. Guidelines should provide flexibility and adaptability in the recommendations. However, when evidence results in clear cut and time sensitive recommendations (e.g. cardio pulmonary resuscitation), wording can be more stringent [55].

  Other factors, related to the clinicians' values and thoughts about EBP are their level of knowledge and motivation, their understanding of evidence grading systems, lack of familiarity, age of clinicians and perceptions about the likely benefits and risks of using EBP-tools [37, 53, 74]. All of these values are found to be altered by professional interactions, social, political and legal factors (e.g. time consuming search procedures, financial support for EBP users, lack of staff …) [49, 76] . This implies that there is a strong need to develop education and training programmes for end-users in the use of clinical practice guidelines.

- Feasibility

  Feasibility involves the local applicability of guidelines, the consideration of resource constraints to make them more implementable, and the influence of novelty or familiarity (see previous point). Guidelines which pose little challenge to the current system of care are found to be easier to implement. Guidelines that require acquisition of new competences and skills are more difficult to implement [44]. Guidelines should contain information regarding competency, skills and training needed to obtain these and make end-users more confident [57].

The developing team should assess the implementation situation for the specific end-user group (what is available? What is absent? What is needed?) and should, based on this information, decide to create or add tools to assist guideline implementation (e.g. daily goal sheets, flowcharts and decision trees, calculators, …) [53]. Testing of guidelines before publication can also be considered (necessary resources, tools needed…) [55] and is found to be important for implementation success [61]. Addition of implementation information and tools in a clinical guideline is perceived as helpful and less threatening by end-users than complex and costly, often mandatory, implementation strategies[57].

Another aspect of feasibility is the availability of resources. Guidelines should contain information regarding health policy and regulations, technical needs, human resources implications, professional requirements and expected impact on costs [53, 57].

Feasibility also implies the adaptation of (foreign) clinical guidelines to the context of the local health care system, in terms of local resources, competencies, regional policy and cultural aspects. Tools to facilitate the process of implementation have to take into account local contextual information to improve guideline effectivity [44, 57].

Communicating content

A third very important stage in the creation of EBP-content is the communication of the recommendations. To ensure effective uptake of the messages, one has to address two domains: *language* (i.e. to ensure that the language of recommendations is simple, clear, uniform and persuasive) and *format* (i.e. including specific components; refining presentation, layout and structure; and representing guidelines in multiple version for different users and purposes) [53, 55].

- Language

  A first point, perceived as very important by clinicians, is that they like to have clinical guidelines and associated tools and products in their own language[53].

  Information in guidelines is often too dense or to detailed[53]. Recommendations that consist of multiple elements and multiple actions, that contain a high number of 'if' and 'or', or list a high number of conditional factors, are more difficult to understand. The level of complexity of a recommendations is inversely related to its adoption. Moreover, complex wording can lead to misunderstanding and be less persuasive, resulting in lower success rates of implementation, lower compliance and adherence and less acceptance[55]. Another point of attention is the terminology that is used in a guideline: inexplicit terms in recommendation language and inconsistency of thresholds and terms used in a guideline were found to be important barriers in guideline implementation[51, 53].The wording of recommendations in behaviourally specific terms was also found to have a positive influence on the attitude and confidence of patients regarding their disease and treatment[57].

  - Simplicity

    Simple guidelines avoid information overload and complexity in wording. If guidelines are difficult to understand, uptake and adoption is much more difficult, compared to clear and easy to read guidelines. When the message is too complex, a higher level of mental effort is needed to understand and use it [74]. Information overload can also cause confusion, postponement or abandonment of information, decline in quality of choices and resistance to novelty. A long set of alternatives (more than 5 at the same sequence) is not found to be successful [55].

    Another point of attention regarding simplicity of the recommendations, is that experienced users understand (and might appreciate) nuances while novice users might struggle with complex decision chains (alternatives and choices). A possible solution is hierarchical nesting of recommendations. This clarifies the rationale of a set of recommendations. Removing unnecessary words can shorten the message. And the use of 'if-then-else' can provide structure in a group of recommendations.

As several target users can be defined for a specific guideline, developers have to take into account that the wording of different versions needs to be changed, in order to enhance readability and comprehensibility. Dynamically generated recommendation forms can be made adaptable for these wording issues [55].

- Clarity

  Clarity of a guideline, in terms of a clear structure and a clear wording of the recommendations, is found to enhance applicability of a clinical guideline [57]. A lack of clarity is an important barrier for implementation [53]. One of the topics that improves clarity of recommendations is the use of actionable verbs. An actionable statement should provide practical direction towards a specific behaviour or treatment: when (under what specific conditions), who, must/should or may (the level of obligation), do precisely what action [55]. A tool to lead developers to clear and actionable statements, linked to appropriate indicators of evidence quality and recommendation strength, are BRIDGE-wiz [77]. Further information on wording can be found elsewhere [44, 55, 78]

- Persuasiveness

  The communication of guidelines should be crisp and persuasive [37]. Specifically in case of uncertainty, the message should be framed in terms of 'gain' than in terms of 'loss'. The arguments have to be described clearly and have to emphasize the relative advantage of a new approach, as this is a predictor of future intentions (Rogers' theory of diffusion of innovation [79]).

- Format

  The choice of the format of a guideline is very important as it will influence its promotion and use. Clinicians prefer concise, simple and easy to use guidelines for practical use during the clinical encounter, but also emphasize the need for high quality scientific information. To optimize the uptake of clinical guidelines, multiple versions of the same guideline can be developed (based on the end user or the circumstances of use), such as a full text guideline with description of methodology, brief guidelines for clinical education, short versions for actual clinical use, lay language versions for patient education and shared decision making and, tools and aids to support professionals in applying the knowledge [55, 57, 58]. Other format elements that have been mentioned in the implementation literature are a clear table of contents (with hyperlinks), numbering of pages, and provision of a summary of recommendations[57]. Kastner also proposes to distinguish clearly between recommendations (as core element) and the evidence ("nice to know") [53].

  Efforts have been made to make clinical guidelines more accessible to a wider audience, typically by making them shorter and easier to read. Other groups aimed to create more recognizable knowledge sources for patient, such as Choosing Wisely Collaboration (USA), Consumers United for Evidence Based, CUE, DECIDE Work stream, NICE plain text versions and SIGN Public Facing versions of GCPs [14]. Also in Flanders, this effort has been made by setting up a dedicated free access website for evidence based patient information and leaflets [e] [80].

  Disseminating guidelines in other (supplementary) formats, such as algorithms, summary pages, electronic content and apps, can be helpful in enhancing applicability. Tailoring of the end-product is highly important for implementation [57]. All this formats have to be taken into consideration during the development process, including electronic versions (static or dynamic) with direct connectivity with an electronic medical record[55]. Additional e-learning application or training modules can be developed and added to the website to achieve certain learning objectives [61].

[e] http://www.gezondheidenwetenschap.be

A Dutch tool, developed to improve presentation and formatting of guidelines [10] suggests to (1) highlight preference sensitive recommendations in guidelines, (2) describe advantages and disadvantages of the different options and (3) 'other considerations' if necessary, (4) provide decision aids, (5) facts sheets[f] for patients, (6) risk communication tools for shared decision making, (7) tools to elicit patient preferences and (8) tools in an electronic environment, (9) offer a list of 'frequently asked questions', (10) develop a communication plan and (11) a shared decision making platform.

Shekelle et al (2012) reported positive effects of using 'invited peer reviewers' and 'public consultation' at the end of a development process or during the deliberations of the guideline group. The peer reviewers should not have the right to vote but should be allowed to be present during discussions and express their concerns or criticisms. Public consultation is the spreading of a pre-final draft version to stakeholder groups to collect criticism and feedback. Both procedures were found to be effective in 'buying in' stakeholders, increasing engagement and promoting awareness [62].

- Version

  Guidelines are often provided in a text-based version. Electronic versions improve accessibility of EBP recommendations, but the end-product remains inflexible and static, which is not preferred by clinicians during clinical encounters. Research suggest that physicians do not use text based guidelines at point of care, because this is time consuming and not appropriate for real practice use [53]. A guideline should be adaptable to the circumstances in which it is applied.

  An important point, to take into consideration in this regard is the development of dynamic presentation formats (see "applicability"). In this format, guideline delivery forms are dynamically generated and can be adapted to the expertise or type of end-user [55]. Several ICT-formats are developed to build this kind of computerized guidelines[8]. This approach is found to improve the level of use and the impact of EBP on clinical practice, especially in case of connectivity with electronic medical records (EMR/EHR).These type of guidelines are now proposed by guideline consortia such as SIGN[81].

  Another way to connect clinical practice to evidence based knowledge is the development of clinical decision support systems, software solutions that connect recommendations to specific patient data in an electronic health record by use of health care classification coding (e.g. ICPC, ICD9/10, NIC, NOC, NANDA and SNOMED-CT) and medical algorithms. This connection results in specific tailored messages in the electronic health record based on input of the clinician[82]. These messages can be solicited (support, prescription support, care paths …) or unsolicited (alerts). This system requires the development of national standards for structuring of evidence based knowledge, as well as the format of electronic health records [6].

- Components

  Guidelines should be very clear in specification of their purpose, rationale, participants in the development process, methodology, targeted health problem, patient population and intended audience[53]. Strength of recommendations, supporting evidence and methods of deliberation and decision making have to be clearly described. As a matter of credibility and validity, a list of developers, their expertise and affiliations, declaration of conflicts, list of funding resources and methods of adaption to the local context have to be added. A plan for scheduled review and update has to be available[55]. Facilitators for use are algorithms, summary documents, implementation considerations, glossary and tools and calculators

[f] Fact sheets: accessible information on the prevalence, etiology, consequences, and evidence-based assessment and treatment of a medical problem

for clinical use. A clear display of logos, use of colour and highlighting of key messages can be helpful [83]. Brief summaries or algorithms, with links to more extensive explications of guidelines could be used to highlight the most pertinent information [55].

- Presentation: influence of lay-out and format on the product's usability

  The placement and the arrangement of visual elements, the length of the document and the organisation (structure) of evidence and recommendations are all very important. Short guidelines (maximum 2 pages), with links to background information or with appendices with more 'in depth' information, are preferred by clinicians. Lengthy guidelines are, in contrast, experienced as extremely burdensome. For a quick reference (e.g. during a clinical encounter), it is necessary to provide a medium with only the essential information. The 'full text' document can be used by clinicians who need supplementary information [55].

  The use of colour can be helpful in the presentation of a guideline. Basis colours (green, red, yellow and blue) were found to be easier to remember than mixed colours, and yellow and blue were found to be better in case of colour blindness [8].

  Tables or small frames can also be helpful in making the guideline more readable. Patients find tables having the highest clarity, compared to other visualization of information [37, 84].

  Algorithms can be used to visualize a decision process, especially when the decision logic is too complex and the sequence of activities is unclear, but can also be perceived as too rigid [55].

  The more the guideline fits with the real practice of the clinician, the higher the uptake of the recommendations. In a static guideline, the grouping and ordering of recommendations (and assessments and tools) can be aligned with the consultation process of the practitioner. Beginning with the initial evaluation or presenting complaint is this the best approach for clinical practice guidelines.

  Information visualization is another way to facilitate EBP use. It offers a way to shift the cognitive load to the human perceptual system through graphics and animation and facilitate uptake of information and understanding. However, algorithms and animation cannot contain all details of the text. Pictures are easier for consumers/patient to understand and are helpful for the uptake of certain messages. Statistical graphics are also found to be helpful to clarify absolute (staked bar charts) or relative risk (simple bar charts), effectiveness (line graphs) or trends (survival curve)[8, 55].

- **Implementability of guidelines is influenced by a broad set of aspects throughout the process of EBP development of content, creation of content and communication of content**
- **Important factors regarding the developers of a GCP are comprehensiveness of the EBP development group (involvement of clinical experts, target population, decision makers an methodologists), knowledgeability and credibility, and avoidance are at least clarity of competing interests (financial, professional, academic).**
- **Regarding creation of EBP content, the following aspects have to be taken into account: evidence synthesis (clear & sound methodology, completeness of reporting, and currency of evidence), and deliberations and contextualization (clinical applicability, values and feasibility)**
- **In terms of communication of content, the following aspects are very important: language (simplicity, clearness and persuasiveness) and format (which components are needed, what presentation is preferred and are different version needed?).**

4 INTERNATIONAL SURVEY

4.1 Introduction

Based on the literature review presented in chapter 3, three dimensions were identified as components of guideline implementability: developers of content, creating content and communication of content. The dimensions were challenged with other European guideline developers. The aim of this benchmark is to highlight strategies that may be considered to improve KCE guideline implementability and effective implementation.

4.2 Method

The methodological approach used in this chapter is based on 3 axes:

International survey

An online questionnaire was developed according to in the Guide-M model (see section 2.2.6) and submitted to other guidelines agencies. The full questionnaire is available in Appendix 2.

The online survey was sent 24 March 2016 to a purposive sample of guidelines developers (NICE, SIGN, AHRQ, NHMRC, Cancer Care Ontario, McMaster, Adelaide University, HAS, IQWIG, IKNL, ZonMW, CBO, NHG, V&VN, ZINL, Duodecim, AWMF, KNGH). One reminder was sent and the data collection was definitively closed on 8 May 2016. Finally, survey results were circulated among participants for validation.

Comparison with KCE working process

Survey results were reported in order to put them into perspective with the KCE working processes described in the KCE process book[2].

SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis

The **SWOT technique (Strengths, Weaknesses, Opportunities, and Threats)** is an analytical method, helping to understand how an organization can achieve strategic goals.[85] The SWOT framework is a two-by-two matrix comparing internal capacity to external environment. The assessment of internal capacity consists to identify existing resources and skills (strengths) and the missing ones (weaknesses). The appraisal of external environment focuses on elements outside the organisation that may affect it either positively (opportunities) or negatively (threats). A SWOT analysis was performed on the basis of the comparison of KCE processes with the surveyed agencies.

4.3 Online survey and comparison with KCE working processes

Characteristics of respondents

Seven of the 17 contacted foreign agencies participated in the survey. Their description is shown in Table 3.

Table 3 – General characteristics of respondents

Country	Institution ID	Full name	Guidelines in 2015 (n)	Targeted caregivers
France	HAS	Haute Autorité de Santé	30	General Practitioners, Physiotherapists, Clinical biologists, Dermatologists, Emergency doctors, Geriatricians, Gynaecologists, Intensive care specialists, Nephrologists, Ophthalmologists, Psychiatrists, Radiologists, Surgeons, Urologists
Finland	Duodecim	Finnish Medical Society	18	General Practitioners, Dentists, Cardiologists, Dermatologists, Emergency doctors, Geriatricians, Gynaecologists, Intensive care specialists, Nephrologists, Oncologists, Ophthalmologists, Paediatricians, Pathologists, Psychiatrists, Radiologists, Surgeons, Urologists
The Netherlands	NHG	Nederlands Huisartsen Genootschap Dutch college of GP	12	General Practitioners
The Netherlands	IKNL	Integraal Kankercentrum Nederlands [Netherlands Comprehensive Cancer Organisation]	20	Nurses, General Practitioners, Dermatologists, Geriatricians, Gynaecologists, Oncologists, Pathologists, Radiologists, Surgeons, Urologists, neurologists, head-neck specialists, gastro-entomologists, lung specialists, rehabilitation specialists
The Netherlands	V&VN	Verpleegkundigen & Verzorgenden Nederland [Nurses and Care Providers Netherlands]	2	Nurses
Scotland	SIGN	Scottish Intercollegiate Guidelines Network	3	General Practitioners, Nurses, Midwives, Physiotherapists, Dentists , Pharmacists, Cardiologists, Dermatologists, Emergency doctors, Geriatricians, Gynaecologists, Intensive care specialists, Nephrologists, Oncologists, Ophthalmologists, Paediatricians, Pathologists, Psychiatrists, Radiologists, Surgeons, Urologists, allied health professionals
United Kingdom	NICE	National Institute for Health and Care Excellence	46	General Practitioners, Nurses, Midwives, Physiotherapists, Dentists , Pharmacists,

	Clinical biologists, Cardiologists, Dermatologists, Emergency doctors, Geriatricians, Gynaecologists, Intensive care specialists, Nephrologists, Oncologists, Ophthalmologists, Paediatricians, Pathologists, Psychiatrists, Radiologists, Surgeons, Urologists, social care and public health professionals, commissioners and managers.

Topic selection for development of new guidelines

The KCE follows a strict procedure to select a topic for guideline development. This procedure is common to all topics selected for the KCE work programme

- Topic submission
  - Call for topics

    Each year, KCE launches a call for research topic proposals to build its annual research program. In the same way, topics may be freely submitted during the HAS call.

    IKNL and NHG propose a predefined topic list to practitioners or professional organisations. Contrary to IKNL that organises a public call, no formal call is organised by NHG.

    Duodecim, SIGN, V&VN rely on free submission without a call such as NHG does but NHG uses also a self-made predefined topic list. V&VN includes only topics related to a Dutch subset of nursing.

    NICE chooses guideline topics from a library of topics for quality standards. Then, a relevant commissioning body (NHS England or the Department of Health) gives its approval based on the pre-existing guidelines and on the priority given to the topic by commissioners, professional organisations, organisations for people using services, their families and carers [86].

  - Who can submit a topic?

    Every citizen, organization, institution or policy maker may introduce a subject for a KCE research. Practically, in the last 5 years, topics for guidelines development were submitted by health professionals (45%), public health institutions (31%), citizens (14%) and decision-makers (10%).

    No surveyed organisation considers private commercial firms as potential submitters but all of them consider patient organisations as potential submitters. Individual patients are also considered by Duodecim, IKNL, SIGN and V&VN.

    In addition, scientific societies are often important partners (HAS, IKNL, Duodecim, NHG) as well as policy makers (HAS, Duodecim, NHG, SIGN and V&VN).

    Except HAS, all guideline developers include individual health professionals in the potential submitter group.

    Professional organisations may suggest a subject for guideline development in Finland (Duodecim) and in the Netherlands (IKNL, NHG and V&VN).

    Other potential partners are quality of care organisations, schools/universities and public funding bodies (NHG, SIGN, V&VN).

- Organisation of topic collection

  KCE organises the topic collection via a website form. A description of the health issue and research questions must be provided by the submitters. They have to explain the policy relevance, the importance of the topic (frequency, severity and room for improvement) and the feasibility of the proposal within a period of one year.

  Online forms are also used by Duodecim, V&VN and IKNL.

  The secretary of the NHG Advisory Board collects the topics without a formal procedure.

  In France (HAS) the topics are collected by specific forms reporting the reasons for guideline development (sent by mail, post or collected during meetings with policy makers).

  Finally, SIGN collects topics proposed through direct contact with healthcare professionals, SIGN Council (governing board), Healthcare Improvement Scotland (NHS Scotland) or through a predefined form available on the SIGN website including PICOs, clinical question and reasons for guideline development. The form can be submitted online or by e-mail.

- Selection of topic

  The selection for KCE guideline topics is a two-step procedure. First, about 12 people (experts and management) rate each topic on a 5 point-scale according the criteria mentioned above: policy relevance, frequency, severity, room for improvement and feasibility of the research). A short list is then created based on the scoring. At a second stage, this short list is submitted to the KCE board which is entitled to adapt the prioritization.

  All surveyed guideline developers (except HAS) also have a formal procedure to select guideline topics. Decision makers are in charge of the topic selection at NICE (Secretary of State for Health, an elected politician) and at SIGN (SIGN Council, board of governance).

  Other institutions rely on expert groups whose composition varies widely between guideline developers. Some expert groups include health professionals (IKNL, NHG, V&VN). Other institutions have expert groups with broader skills for topic selection as for example Duodecim that includes representatives from authorities, hospitals, primary health care and other stakeholders (excluded industry).

  All agencies use aspects, such as room for improvement, feasibility and emergence of new evidence, as selection criteria. Some agencies take other criteria into consideration such as unavailability of a national guideline (NHG, IKNL, NICE, SIGN, V&VN) or number of patients and severity of illness (NHG, Duodecim, NICE, V&VN).

  The adequacy between selected topics and end-users' needs is frequently assessed by guideline development agencies.

Updating of guidelines

KCE and HAS do not have a formal procedure for updating guidelines.

NHG bases its update strategy on a classification of guidelines (A level: update at least once in 2 years, B level [intensive] or C level [less intensive]: at least once in 5 years and D level: when new developments could change the recommendations). For D level guideline, a position statement is published when new developments do not affect the recommendations. Overall, a guideline is considered as outdated after 5 to 8 years depending on the topics.

For the others agencies, update lays down in rules (V&VN check every 5 years, Duodecim: 3 years and SIGN 3 years). These agencies do not track systematically new evidence or interventions. However, it can be decided to do an earlier update if new evidence has been published or new intervention(s) come(s) into the market.

NICE is more pro-active in the field with an assessment after 18 months to 2 years to determine if it needs updating, or partial updating, in the light of new evidence. Monitoring of new evidence is performed according to a formal procedure described in the process and methods guide [86].

Funding of guideline development

KCE is a parastatal institution mainly funded by INAMI/RIZIV and by the Federal Public Service (FPS) of Health, Food chain Safety and Environment, and by the FPS Social Security.

In de same way, all surveyed agencies are publicly funded. However, NHG is supported by private non-commercial funding including members' fees, national health council funding, revenues from NHG products and services.

Scoping of guidelines

KCE procedures and HAS plan a scoping meeting with experts and stakeholders, including patient representatives. The aim is to define clinical questions that must be covered by the guideline.

IKNL, SIGN and Duodecim consult the GDG to scope a guideline. SIGN is supported by a guideline proposal advisory group that makes recommendations to refine the guideline scope. Broader audience is consulted by other agencies. NICE consults not only GDG but also stakeholders, committee chairs, topic advisors, evidence review teams, information specialists and economists according to a formal procedure which is available online [86]. NHG also consults GDG and stakeholders but organises, when appropriate, focus groups with patients to refine the guideline scope (e.g. acne vulgaris). V&VN recently introduced a scoping process with a scientific committee, GDG, stakeholders and national external experts.

Involvement during content development

Content development at KCE follows a 5 steps process implying different actors. The first step is the scoping of a guideline and is previously described. The second step consists of literature review conducted by KCE experts. Thirdly, on the basis of the results of the literature review, recommendations are formulated and graded according to the GRADE approach. KCE drafts the first version of clinical recommendations and the GDG reviews it. Next, an external review is provided by professional associations and patients representatives (stakeholders). Finally, the guideline is validated for the scientific perspective by two clinicians and for the methodological point-of-view by CEBAM (Belgian Centre for Evidence-Based Medicine). The specific roles of the GDG and stakeholder groups can be found in Appendix 3.

Most agencies (except HAS) use specific GDGs for the development of guidelines. These GDGs involve health professionals, knowledge synthesis and guideline experts but the composition of GDG varies between agencies.

- Duodecim always includes health professionals as a multidisciplinary group.
- Individual patients, family members or patients' representatives are involved in GDG of IKNL, NICE, SIGN, V&VN and, sometimes, NHG.
- Health economists are used in GDG of NICE and SIGN
- Implementation experts in GDG of NICE and IKNL.
- NICE includes ethicist in their GDG.

Stakeholder groups are less often used. NICE, SIGN and V&VN meet stakeholders during the guideline development. The stakeholder groups include health professionals, individual patients, their family or patient representatives and decision makers. NICE also adds academics while SIGN organises a national meeting open to anyone.

Output format and support tools

Currently, KCE usually provides full guidelines but also guidances (see definitions in Table 4). However, when high quality full guidelines or guidances have been recently published by other agencies, KCE performs adaptation according the ADAPTE procedure [87].

All other surveyed agencies provide full guidelines. Guidances are produced by the majority of guideline developers (IKNL, NHG, HAS, NICE and V&VN). Adaptations of guidelines are proposed by NHG, HAS and V&VN but NHG does not use ADAPTE procedure. Only two agencies provide compilations of guidelines (IKNL and V&VNL) and three offer rapid advice guidelines (NICE, V&VN and NHG).

Utilization of support tools varies between agencies (see Table 4). While support tools are limited to a short summary at KCE, NICE and Duodecim develop a wide range of support tools. However, all surveyed agencies develop patient leaflets.

Table 4 – Guidelines output formats and support tools

Product	Definition	Duodecim	HAS	IKNL	NHG	NICE	SIGN	V&VN
Guidelines output formats								
Full guidelines or comprehensive guideline	recommendations regarding all aspects of the topic (e.g. surveillance, diagnosis, clinical interventions and follow-up)	x	x	x	x	x	x	x
Standard guidelines or guidance	recommendation(s) focused on a single clinical question		x	x	x	x		x
Adaptations of guidelines	adaptation of recommendations from recent and high quality evidence based guidelines into the local context		x	x	x			x
Compilations of guidelines	summary of several guidelines without update			x				x
Rapid advice guidelines	recommendations without reporting of evidence, e.g. Up-to-Date, BestBETs or other point-of-care solutions				x	x		
Support tools								
Clinical decision tree	Algorithmic representation of guideline knowledge	x	x	x		x	x	x
Decision aids	On-line as well as other media that support shared decision making	x		x	x	x		x
Graphical support for health professionals	Graphs, tables, figures	x	x	x	x	x	x	x
Graphical support for patients	Low threshold graphs, tables, figures	x		x		x		x
Patient leaflets	Easily approachable, low threshold patient versions of recommendations	x	x	x	x	x	x	x

Development of support tools are supported by dedicated teams (HAS, NHG).

At SIGN, the 'patient involvement officer' works with lay reps and healthcare professionals to identify recommendations that are important to patients. The patient involvement officer drafts leaflets and other graphical sources. Finally, the leaflet undergoes consultation and lay peer review.

Broader teams are dedicated to develop support tools at NICE. Clinical decision trees take the form of interactive algorithms including all guidelines relevant to a particular clinical condition (NICE pathways). Practically, users navigate through the algorithm until they arrive at their point of interest where they are able to download detailed information. The development of such pathways requires a multidisciplinary team of clinical and information specialists. Decision aids are drafted by the implementation support team and tools for patients (graphical supports for patients and patient leaflets) by the editorial team. These tools are quality assured by a separate group - the publications executive.

Nearly all agencies check if the guideline formats and support tools meet the need of final users and amendments are made if necessary, even post publication at NICE.

Reporting content

1. Reporting evidence

   Reporting evidence in KCE guidelines exists in several forms. Firstly, all primary studies are quality appraised using validated tools chosen according the study design [2]. Secondly, data from each primary study is extracted on a standardized form including information on method, patient characteristics, intervention, results and limitation. Thirdly, GRADE profiles provide an assessment by outcome for the 5 GRADE criteria (limitation, inconsistency, indirectness, imprecision and publication bias). Reasons for downgrading and final level of evidence are also reported in the GRADE profiles. Finally, summary of findings tables give an overview of quality assessment by outcomes with an aggregated evaluation of the intervention effect. Results of quality assessment, data extraction, grade profiles and summary of findings are reported in appendix to make room for a narrative free text in the main report that report an overview of evidence.

   - Reporting evidence may take different forms:

     All surveyed agencies use narrative text to report evidence but only three use standard wording to do that (NICE, IKNL and V&VN).

     Unlike other agencies, HAS states that they do not provide evidence tables based on formatted data extraction sheet. In addition, SIGN does extract data using checklists and provide evidence table to the GDG but do not publish them on the website.

     NHG reports GRADE profiles and Duodecim and NICE provide both GRADE profiles and summary of findings. Although SIGN bases largely its methodology on GRADE methods, GRADE profiles and summary of findings are not reported in guideline report.

     Strength of recommendation and level of evidence are reported together with the recommendation but HAS states only the strength of recommendation and three others agencies (Duodecim, NHG and SIGN) provide only the level of evidence for each recommendation.

2. Wording of recommendations

   Wording of KCE recommendations do not follow strict standards but part of the online process book provides writing tips[2]. At a final step, the stakeholders give feedback on wording of recommendations.

   NICE and SIGN design a formal procedure for the wording of recommendation. Full details are available online [86, 88]. Duodecim gives examples in the manual for working.

   Except HAS, all agencies test the understanding of recommendations by end-users. The common method used is an informal circulation of recommendations among stakeholders. In contrast, NICE and SIGN use a formal public consultation process. NHG takes this opportunity to ask stakeholders about the implementability of recommendations.

3. Guidelines in context

   Applicability of recommendations is tested by KCE and other agencies (NHG, IKNL, Duodecim and NICE) by, commonly, an informal consultation of stakeholders.

   - The resources needed to apply recommendations are assessed by NHG, NICE, SIGN and V&VN.
   - Resources assessment is done by NHG when relevant or when costs could be a barrier for implementation.
   - Analysis of cost and appraisal of cost effectiveness is an integral part of the NICE guideline process and methods [86]. The assessment is carried out by health economist attached to the GDG.
   - During development of a SIGN guideline, the GDG identifies questions with potential cost-effectiveness implications where it was judged particularly important to gain an understanding of the additional costs and benefits of different treatment strategies, based on the following criteria: 1. treatments which may have a significant resource impact; 2. opportunities for significant disinvestment or resource release; 3. the potential need for significant service redesign; 4. cost-effectiveness evidence could aid implementation of a recommendation. Interventions are considered to be cost effective if they fall below the commonly-accepted UK threshold of £20,000 per QALY.

Finally, the fit between reporting format and final content, on the one hand, and the end-users' needs on the other hand are checked by three agencies NHG, IKNL and Duodecim. NICE and V&VN limited their evaluation to the adequacy between final content and end-users' needs.

Communication of content

KCE is supported by a communication cell that develops and distributes press releases, information on the KCE website, newsletters and social media activities. Further on, a webmaster supervises and adapts the content of the KCE website.

In this section, communication content is analyzed through language used in recommendations, communication with health professionals, communication with patients and communication support:

- Communication specialists (editor staff members) also challenge the simplicity, the clarity of the recommendations and the use of persuasive language in all surveyed agencies except in Duodecim and HAS.
- All but 2 (Duodecim – V&VN) surveyed agencies have staff or external department dedicated to communication of guideline to health professionals. Composition of team varies widely by agency. NHG has a Marketing and Communication including approximately 25 staff members. NICE is supported by a 40 people teams for communication, field team and implementation support teams with a range of communications, media, clinical and managerial skills. At SIGN, one person is in charge of dissemination and awareness raising. For V&VN guidelines, the communication is dedicated to GDG.
- All respondents, except HAS, base their communication on a specific plan. While SIGN applies a standard plan for all guidelines, Duodecim and V&VN establish a bespoke plan for each guideline. For its part, NICE has strategic communications plan for the organisation as a whole and communications plans for key pieces of guidance. The plans are bespoke to the guideline and may focus on national health organisations, general and specialist media outlets, patient groups as well as a local health services.
- Regarding the communication with patients, all agencies have staff or external department dedicated to communication with patients.
- Paper has not completely disappeared from communication supports. Books –including full guideline– are always published by SIGN and NHS while flyers and booklets are edited by IKNL. Publication on article format in (online) journal are more widespread: scientific journal (NHG, IKNL, Duodecim, V&VN and SIGN), professional journals (IKNL, SIGN, and V&VN) or commercial journals (IKNL). Spreading information through electronic mailing is used for full reports (HAS, SIGN, and V&VN) or for short reports including only recommendations (NICE, SIGN and V&VN). Social media such as Twitter or Facebook… are used

by all respondents, except NHG. All surveyed agencies hosts guidelines on their websites allowing web browsing through guideline sections. This latter function is not available for HAS, SIGN and V&VN guidelines. In addition, supports tools such as clinical decision tree or decision aids facilitating shared decision are provided by NICE, HAS, IKNL, V&VN and Duodecim. Surprisingly, link to practitioners' electronic heath records is proposed only in UK (NICE guideline) and Duodecim but, SIGN has developed smartphone app.

Dissemination activities

Dissemination of KCE guidelines involves several actors. Firstly, the KCE communication cell communicates over the publication of each guideline to a large audience including both health professionals and general public as described in the section 'communication'. Secondly, health professional organizations were asked to widely disseminate the KCE guidelines to their members. Finally, EBMPracticeNet disseminates validated guidelines to health professionals through their own freely accessible central platform and through decision support systems, connected to electronic medical records (currently available for some GPs). In addition, KCE guidelines are available in the GIN-database (Guidelines International Network).

Four agencies (IKNL, NHG, NICE and SIGN) have a specialist dedicated to dissemination in their own team. These agencies collaborate also with international partners for dissemination. In addition to classical dissemination material such as the organization website (IKNL, NHG, NICE, SIGN), mailing (IKNL, NICE, SIGN), printed material (IKNL, SIGN), NICE uses a field team and conferences as dissemination tools while SIGN and V&VN disseminates guidelines through social media.

Guidelines are mainly available in non-commercial databases (GIN-databases: NHG, NICE and SIGN or National Guideline Clearinghouse: SIGN). Only NICE also stores guidelines in TRIP database.

Implementation related activities (taking into account implementability)

KCE is not involved in implementation and therefore only can act on implementability of its guidelines.

Some agencies (NHG, IKNL and NICE) have an implementation specialist. Strategies to enhance implementation of guidelines are differently implemented. IKNL sets up an implementation plan for each guideline. NHG uses educational materials, conferences and online content –including movies. NICE can rely on a field team of 8 implementation consultants and divers tools such as local practice collection, costing tools, quality standards, education tools, fellows and scholars program.

GDG are involved in the implementation (IKNL, Duodecim, NICE, SIGN and V&VN).

- IKNL and V&VN GDG members develop guideline implementation plan
- SIGN GDG members develop implementation tools
- NICE invites GDG members to raise awareness of guidelines at local and national level
- Duodecim fosters the GDG members to give lectures or to write articles and communicating in their own organisations and geographical areas.

4.4 SWOT analysis

This section presents each of the components of the consolidated and validated SWOT analysis, as constructed through the data collection from international survey among a sample of European EBM-agencies. The components are classified according the Guide-M model (see Table 5).

Table 5 – Overview of the SWOT analysis

Strengths	Weaknesses
• Topic selection • Funding of guideline development • Involvement in content development • Reporting of content	• Scoping of guidelines • Updating of guidelines • Output format • Communication of content • Too less client oriented • No systematic economic evaluation
Opportunities	**Threats**
• International collaboration	• Fragmentation between content development and dissemination in the Belgian guideline landscape

4.4.1 Strengths

Topic selection

Once a year a public call is diffused to a large audience to submit proposals of guideline topics. Despite large diffusion of this call, in comparison to other agencies, finding interested people to be involved in content development is always a concern even for caregivers. Collection of topic submissions and topic selection are quite similar to other agencies.

Funding of guideline development

Corporate structure and funding of KCE both allow to produce independent reports. This scientific independence is crucial to ensure the Guide-M domain 'Developers of contents' and more specially the sub-domain 'Knowledge and Credibility'. In other agencies, the scientific independence is also guaranteed by public funding.

Involvement in content development

During the content development of a KCE guideline, the involvement of external parties is very broad from the composition of a GDG and stakeholder groups (including patient representatives) to the search for validators for both scientific and methodological issues. This consultation of a broad audience must be preserved to enforce the credibility, clinical applicability, adaptability and acceptability of the guideline (Guide-M sub-domain shown in Figure 6).

Reporting content

The strength of content reporting in KCE guidelines is the visualization of evidence documentation in several formats such as evidence tables, quality appraisals, GRADE tables and summaries of findings. Although KCE guidelines fulfilled well the sub-domain "evidence synthesis" of "creating content" in Guide-M, the other sub-domains of "creating content" in Guide M ("deliberation and contextualization") are more poorly described in KCE guidelines.

4.4.2 Weaknesses

Scoping of guidelines

Scoping may be improved by:

- A systematic consultation of a broader audience including information specialists, economists, end-users...
- A systematic reappraisal of topic relevance: due to the time frame between topic submission and guideline scoping, end-users' priority may be changed
- An early appraisal of practice context, potential implementation issues and resources impact of guideline development

Applying a multiphasic scoping process as described in NICE process guide may be helpful to achieve this goal.

Updating of guidelines

KCE must be more pro-active in updating its guidelines. Overall, guidelines are considered as outdated after 5 years from publication date. However, no formal procedure is set-up to monitor the validity of recommendations over time. More proactivity in this domain is needed. Useful inspiration for update and monitoring can be found in surveyed agencies.

Output format and communication of content

Because dissemination of guidelines is out-of-scope of the KCE mission, the output format is limited to full guidelines or guidances both accompanied by a short summary of recommendations. No supportive tools are developed. However, other agencies use these tools (such as calculators, leaflets, algorithms …) to improve guideline implementation. Special teams are dedicated to the creation of these products. These communication (and marketing) specialists are involved early in the guideline development process to offer tools in line with end-users' needs which are validated by GDG and stakeholders. Entrusting dissemination to professional associations leads KCE to invest few resources in communication and especially in development of supporting tools. The communication staff is limited to 2 members whose tasks are much broader than only providing

communication related to guidelines. Because professional associations do not always have resources and skills to create supportive tools for full guidelines, collaboration with social marketers for this issue may be helpful. However, a first goal may be to create interactive full guidelines allowing quick browsing through guideline sections. Finally, retrieving KCE guidelines from via KCE website has to be improved in addition to the central point of access for all validated Belgian guidelines. NICE pathway is an inspiring example.

Too less client oriented

Despite a large involvement in guideline content development, there has been insufficient effort directed toward end-users' needs regarding guideline content and format. A first overall assessment is provided in Chapter 3. However, more specific consultations should be organized according to guideline topic and targeted audience. Focus groups with end-users may be considered.

No systematic economic evaluation

Overall, KCE guidelines are poorly documented for economic issues, usually limited to reimbursement of interventions by health care insurances. However, besides reimbursement, several economic issues may be addressed such as out-of-pocket cost of intervention, cost comparison with other interventions, cost of guideline implementation…

4.4.3 Opportunities

Because guideline development according quality standards is an expensive process, international collaboration should allow to share expertise and costs. For this purpose, methods to create content must be standardized between partner agencies. The survey informs that similarity between working processes can be easily found. Despite pooling efforts and resources, wording of recommendations and communication tools should be adapted to local context.

4.4.4 Threats

In 2013, KCE reports 212[1] already emphasized the complexity of the CPG Dissemination landscape and proposed avenues of improvement such as a unique platform for the dissemination of clinical practice guides among health professionals, clear messages edited in various formats, adaptation of good quality guidelines and creation of a specific label for high-quality guidelines. Enhanced collaboration with guideline dissemination stakeholders is crucial to improve creation of supportive tools and, more broadly, optimize dissemination. As shown in Figure 5 describing the research to practice pipeline, reaching end-users is an essential prerequisite without which the efforts spent on creating content will be wasted.

4.5 Conclusion

Based on the results of the SWOT analysis, the strategies to improve the elements presented in box 1 must be considered during creation of the building block for future scenarios while safeguarding those presented in box 2.

5 HOW ARE KCE GUIDELINES PERCEIVED AND RECEIVED BY HEALTH CARE PROFESSIONALS?

5.1 Introduction

Despite the substantial efforts and resources that are invested in clinical guideline development, literature shows that guideline effectivity in improving the quality of care is hampered if dissemination and implementation are inadequate. Literature also provides frameworks to improve the 'implementability' of a guideline (e.g. the Guide M framework see section 2 and 3). In addition, the survey we did among other European guideline developers shows areas for improvement in the dissemination and implementation of KCE guidelines.

Taking these findings into account, the research was completed by a survey among Belgian health care professionals to assess their needs and expectations for guideline.

5.2 Methods

The consultation of health care professionals was conducted by means of an online survey.

Firstly, face-to-face interviews with end-users and professionals with expertise in evidence-based practice were realised to prepare the content of the survey. The dimensions resulting from the qualitative data analysis were translated into closed questions in the survey. All details regarding this preparatory qualitative research are provided in Appendix 4.

Secondly, a draft questionnaire was developed and pre-tested in a sample of health care professionals, KCE management and KCE researchers involved in GCP development.

Finally, health care professionals were invited to fill out the online survey, which was available online during two weeks. Health professionals were not contacted individually but we announced the survey in professional press, on official websites such as INAMI/RIZIV, via scientific societies and hospitals. Hence, a convenience sample was reached whose characteristics are provided in the results section below.

The survey included questions on guideline usage, the methods used to find evidence and guidelines, the drivers and barriers for guideline use and the needs regarding guideline outputs and tools.

5.3 Results

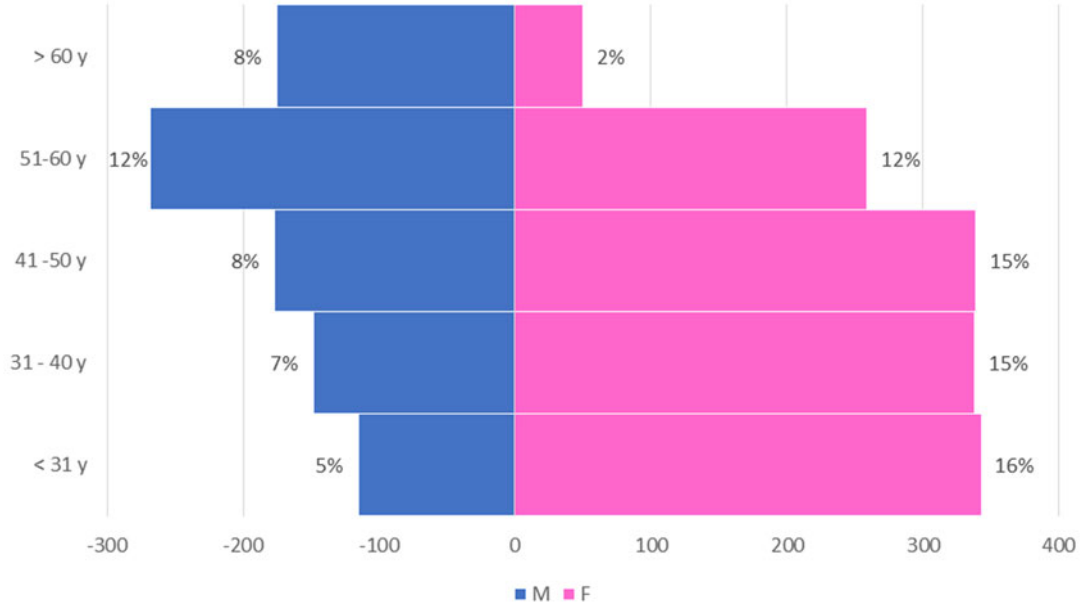
5.3.1 General characteristics of respondents

A total of 2 854 persons visited our survey website but only 2 439 were included in the analysis. Two hundred and forty-eight were other health care professionals than those included in our target population (physicians, nurses, midwives and physiotherapists), 82 did not fill out any question and 85 only gave answers related to demographic characteristics.

Among the 2 439 respondents, 60.8 % were female, 34.0% were older than 50 years (see Figure 8) and 57.6% were Dutch speaking. Physicians represented the majority of the respondents with 44.0%, while nurses, physiotherapists and midwives represented 26.3%, 15.7% and 13.9% respectively.

Table 6 presents an overview of general characteristics of respondents.

Figure 8 – Overall demographic pyramid of respondents



Remark: Gender is missing in 9.3 %

Table 6 – General characteristics of respondents

Profession	Language n (%)	Age category	Career duration	Gender	Total
General practitioners	**French** 286 (44.4) **Dutch** 303 (55.6)	**< 31 y** 81 (13.8) **31 -40 y** 103 (17.5) **41 -50 y** 110 (18.7) **51 – 60 y** 161 (27.3) **> 60 y** 134 (22.8)	**< 6y** 110 (18.7) **6 -10y** 62 (10.5) **11 -20y** 97 (16.5) **21 – 30y** 115 (19.5) **> 30y** 205(34.8)	F 241 (44.4) M 302 (55.6)	589
Specialists	**French** 157 (53.8) **Dutch** 135 (46.2)	**< 31 y** 0 (0) **31 -40 y** 74 (25.3) **41 -50 y** 82 (28.1) **51 – 60 y** 89 (30.5) **> 60 y** 47 (16.1)	**< 6y** 27 (9.2) **6 -10y** 49 (16.8) **11 -20y** 76 (26.0) **21 – 30y** 77 (26.4) **> 30y** 63 (21.6)	F 106 (38.5) M 169 (61.5)	292
Physicians in training	• *GP* *88 (45.6)* **French** 11 (26.2) **Dutch** 31 (73.8) • *Specialists* *105 (54.4)* **French** 77 (51.0) **Dutch** 74 (49.0)	• *GP* **< 31 y** 84 (95.5) **31 -40 y** 2 (2.3) **41 -50 y** 2 (2.3) • *Specialists* **< 31 y** 99 (34.3) **31 -40 y** 5 (4.8) **41 -50 y** 1 (1.0)	• *GP** **1** 32 (36.4) **2** 53 (60.2) **>2** 3 (3.3) • *Specialists** **1** 36 (34.3) **2** 14 (13.3) **3** 13 (12.4) **4** 22 (21.0) **5** 14 (13.3) **6** 6 (5.7)	• *GP* **F** 71 (82.6) **M** 15 (17.4) • *Specialists* **F** 55 (56.1) **M** 43 (43.9)	193
Nurses	**French** 240 (37.4) **Dutch** 402 (62.6)	**< 31 y** 79 (12.3) **31 -40 y** 169 (26.3) **41 -50 y** 196 (30.5) **51 – 60 y** 178 (27.7) **> 60 y** 20 (3.1)	**< 6y** 97 (15.1) **6 -10y** 97 (15.1) **11 -20y** 191 (29.8) **21 – 30y** 145 (22.6) **> 30y** 122 (19.0)	F 385 (37.5) M 179 (62.6)	642
Midwives	**French** 244 (71.8) **Dutch** 96 (28.2)	**< 31 y** 118 (34.7) **31 -40 y** 52 (15.3) **41 -50 y** 73 (21.5) **51 – 60 y** 56 (16.5) **> 60 y** 41 (12.1)	**< 6y** 118 (38.7) **6 -10y** 52 (15.3) **11 -20y** 73 (21.5) **21 – 30y** 56 (16.5) **> 30y** 41 (12.1)	F 293 (86.2) M 5 (1.5)	340

Physiotherapists	**French**	65 (17.0)	**< 31 y**	48 (12.5)	**< 6y**	53 (13.8)	F	178 (46.5)	383
	Dutch	318 (83.0)	**31 -40 y**	79 (20.6)	**6 -10y**	31 (8.1)	M	170 (44.4)	
			41 -50 y	99 (25.8)	**11 -20y**	95 (24.8)			
			51 – 60 y	104 (27.2)	**21 – 30y**	92 (24.0)			
			> 60 y	53 (13.8)	**> 30y**	112(29.2)			

** Duration of training*

Table 7 shows the proportion of professionals working in hospitals. More details about the workplace are provided in Appendix 6.1.1.

Table 7 – Hospital as workplace by profession

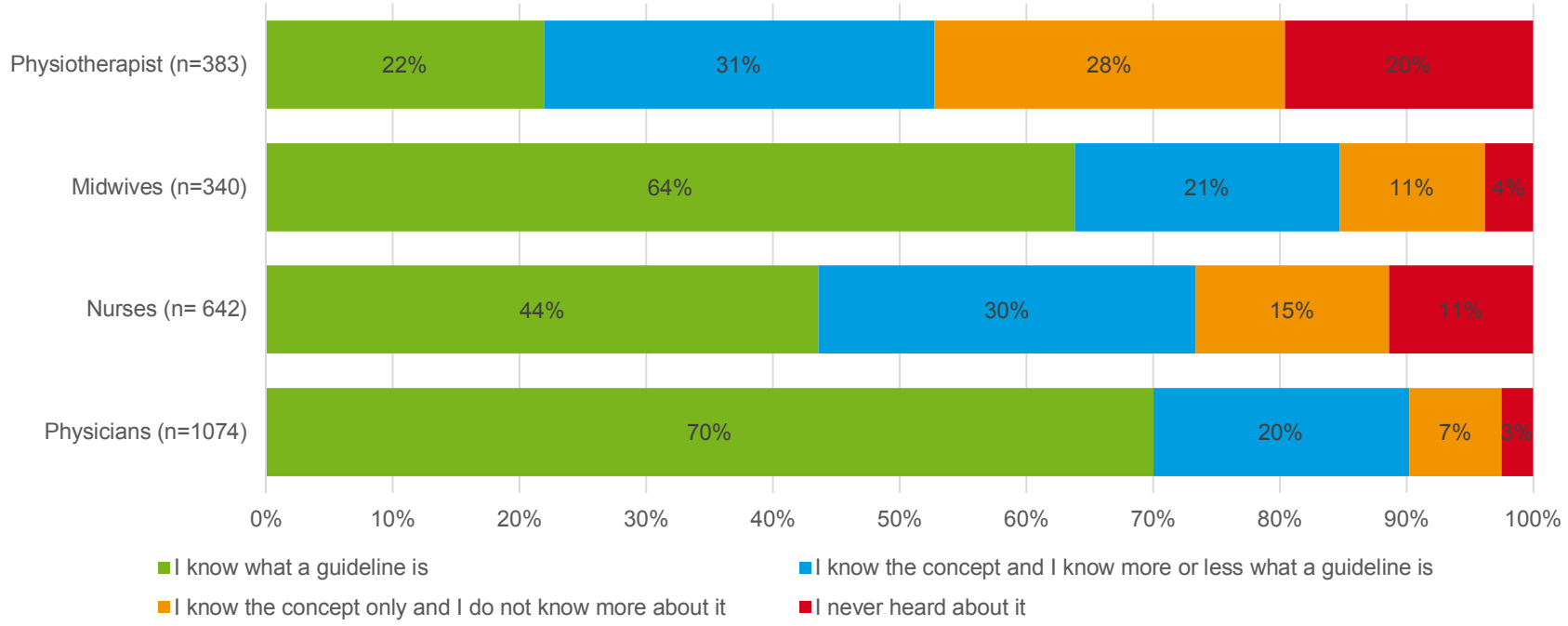
Profession	Work at hospital n (%)	Total
General practitioners	15 (2.5)	589
Specialists	260 (89.0)	292
Physicians in training	• *GP* 2 (2.3) *Specialists* 54 (51.4)	• *GP* 88 *Specialists* 105
Nurses	320 (49.8))	642
Midwives	224 (65.9)	340
Physiotherapists	49 (12.8)	383
Total		2 439

5.3.2 Guideline use

5.3.2.1 Are professionals familiar with guidelines?

Respondents have been asked to indicate whether they are familiar with the concept of clinical practice guidelines. Overall, one out of five respondents (21%) did not know what a guideline is (details about guideline knowledge see Figure 9). This proportion differs significantly between professions. Significantly more physicians (70%) know about guidelines than other professionals. Knowledge about guidelines is spread more widely in medicine than in nursing (44%, p<0.001), in midwifery (64%, p=0.015) and in physiotherapy (22%, p<0.001). In addition, no statistical difference was observed between GPs and GPs in training (p=0.200) or between GPs and specialists (p=0.86). However, the proportion of specialists in training knowing what a guideline is (54.3%), is significantly lower than in specialists (75.0%, p<0.001).

Figure 9 – Familiarity with the concept of clinical practice guidelines (n=2439)



French speaking physicians (85.2%) are more familiar with guidelines, compared to their Dutch speaking colleagues (57.6%, p<0.001) (Table 8). However, gender, hospital as a workplace and age (≤ 40 y vs > 40 y) are not significantly associated with guideline knowledge in physicians. In nursing, language was also associated with guideline knowledge (French speakers: 83.3% vs Dutch speakers 67.3%, p< 0.001). In addition, working at hospital is also associated with guideline knowledge in nursing (Hospital: 80.9% vs other workplace: 65.8 %, p< 0.001). The association between gender and knowledge is borderline statistically significant in nursing.

In midwifery, among the French speaking, the percentage of midwives knowing guidelines is significantly higher than in Dutch midwives. The type of workplace was borderline significantly associated to guideline knowledge. Finally, language and workplace were both associated with guideline knowledge in physiotherapy.

Table 8 – Proportion of guideline knowledge according practitioners' characteristics by profession

Practitioners characteristics	Physicians		Nurses		Midwives		Physiotherapist	
	(n_{total}) % GK	p	(n_{total}) % GK	p	(n_{total}) % GK	p	(n_{total}) % GK	p
Gender		0.655		0.052		0.655*		0.124
F	(473) 70.0		(385) 42.1		(293) 62.8		(178) 19.1	
M	(529) 71.0		(179) 50.8		(5) 80.0		(170) 26.5	
Language		<0.001		< 0.001		0.038		< 0.001
French	(485) 85.2		(240) 60.4		(244) 67.2		(65) 46.2	
Dutch	(589) 57.6		(402) 33.6		(96) 55.2		(318) 17.0	
Age		0.096		0.200		0.524		0.409
≤ 40 y	(448) 72.8		(248) 41.6		(208) 62.5		(127) 24.4	
> 40 y	(626) 68.1		(394) 43.6		(132) 65.9		(256) 20.7	
Workplace		0.623		< 0.001		0.058		0.002
Hospital	(382) 70.0		(320) 54.7		(224) 60.3		(49) 61.2	
Other	(692) 69.5		(322) 32.6		(116) 70.7		(334) 19.5	

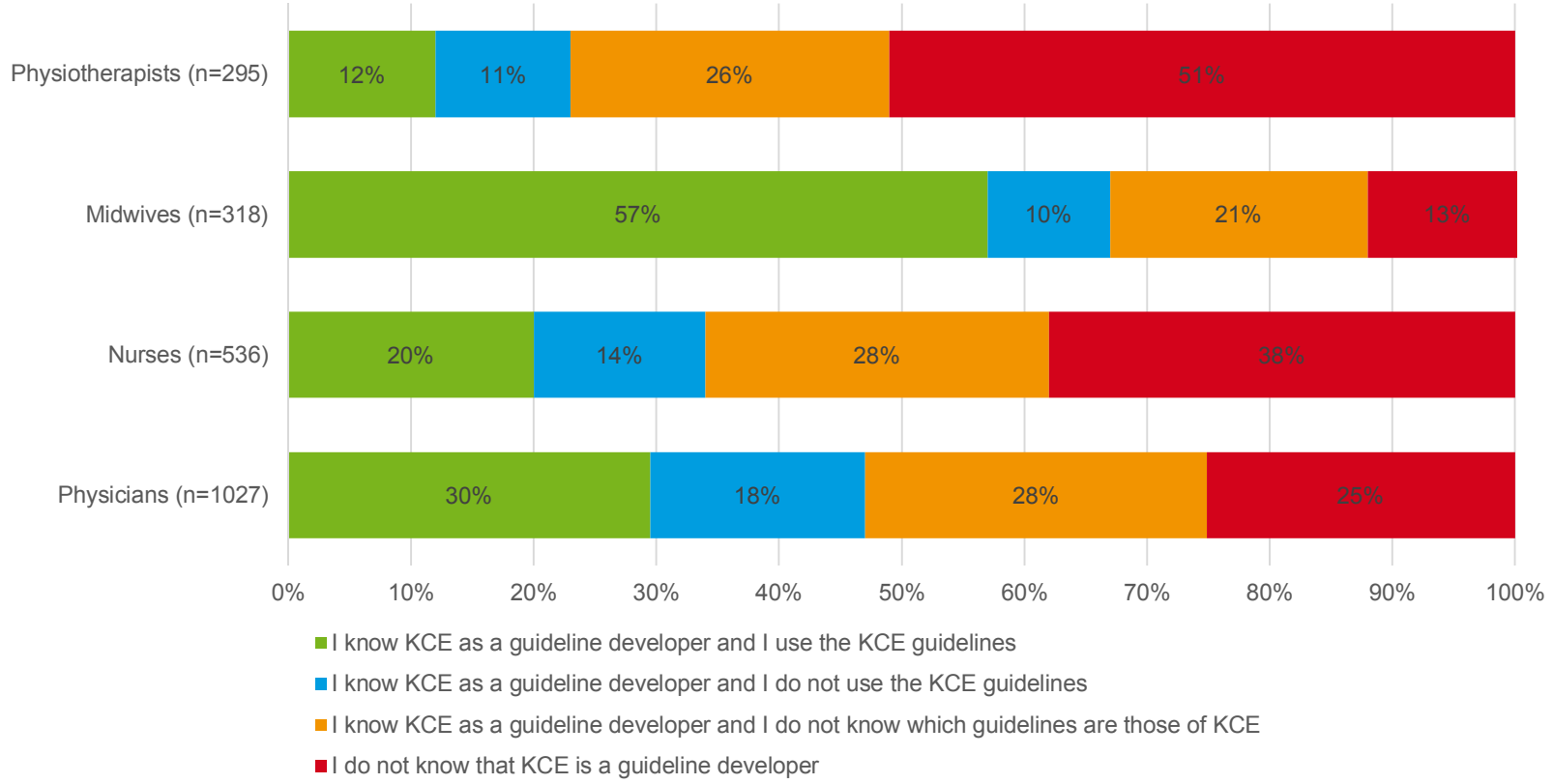
** Fisher Exact test*
GK: guideline knowledge

Multivariate analyse shows that the association between language and workplace remains statistically significant after adjustment in nursing (see Table 9). French speaking nurses were 2.5 times more likely to be familiar with guidelines than Dutch speaking nurses. Those working at hospital were 2 times more likely to be familiar with guidelines than those working outside hospital settings. In physiotherapy, the multivariate analyse shows that language is significantly associated with guideline knowledge but the association with workplace is reversed after adjustment. French speaking physiotherapists were 3.7 times more likely to be familiar with guidelines than Dutch speaking ones. Those working at hospital were 2 times more likely to be familiar with guidelines than those working outside hospital settings (see Table 9).

Table 9 – Logistic regression: Guideline knowledge according the characteristics of nurses (n=642, level of knowledge= 44%) and physiotherapists (n=383, 22%)

Variables	OR	(95%CI)	p*
Nurses			
Language			<0.001
Dutch	1		
French	2.5	(1.8-3.1)	
Workplace			<0.001
Other	1		
Hospital	2.0	(1.4-2.8)	
Physiotherapists			
Language			<0.001
Dutch	1		
French	3.7	(2.1-6.7)	
Workplace			0.045
Other	1		
Hospital	2.0	(10-3.9)	

Figure 10 – Knowledge about KCE as guideline developer and usage of KCE guidelines by profession (n=2176)



Overall, 70% of the respondents were aware that KCE is a guideline developer but only 29% also uses KCE guidelines. These proportions varied among professions (see Figure 10). As shown in Table 10, the proportion of professionals knowing KCE as guideline developer is significantly higher in midwives (87.1%) compared to physicians (74.9%). KCE is even less known as a guideline developer among nurses and physiotherapists (p<0.001 see Table 10).

Finally, when comparing physician subgroups, it appears that one out of two specialists in training knows KCE as a guideline developer. This is significantly higher than in specialists. This difference between specialists in training and graduated specialists was not found among GP. No difference was observed between GPs and specialists (see Table 11).

Table 10 – Knowing KCE as guideline developer by profession (n=2176)

Profession	n	% of KCE guideline knowledge	p*
Physicians	1027	74.9	
Nurses	536	62.5	<0.001
Midwives	318	87.1	<0.001
Physiotherapists	295	48.5	<0.001

** p value of comparison with physicians corrected by Bonferroni method for multiple comparisons*

Table 11 – Knowing KCE as guideline developer by physicians' subgroups (n=1027)

Profession	n	% of KCE guideline knowledge	p
GPs	559	79.2	
GPs in training	88	79.5	0.949*
Specialists	282	73.5	0.060$
Specialists in training	98	50.0	<0.001#

** p-value for comparison between GPs and GPs in training*
$ p-value for comparison between GPs and Specialists
 # p-value for comparison between Specialists and Specialists in training

As was the case for knowing KCE as a guideline developer, more midwives use KCE guidelines (see Table 12) compared to physicians, 56.6% and 29.5% respectively. Nurses and physiotherapists used significantly less KCE guidelines than physicians. When comparing physician subgroups, it appears that specialists in training used significantly less KCE guidelines than graduated specialists (see Table 13).

Table 12 – The use of KCE guidelines by profession (n=2176)

Profession	n	% of KCE guideline knowledge	p*
Physicians	1027	29.5	
Nurses	536	20.5	<0.001
Midwives	318	56.6	<0.001
Physiotherapists	295	11.9	<0.001

** p value of comparison with physicians corrected by Bonferroni method for multiple comparisons*

Table 13 – The use of KCE guidelines by type of physicians (n=1027)

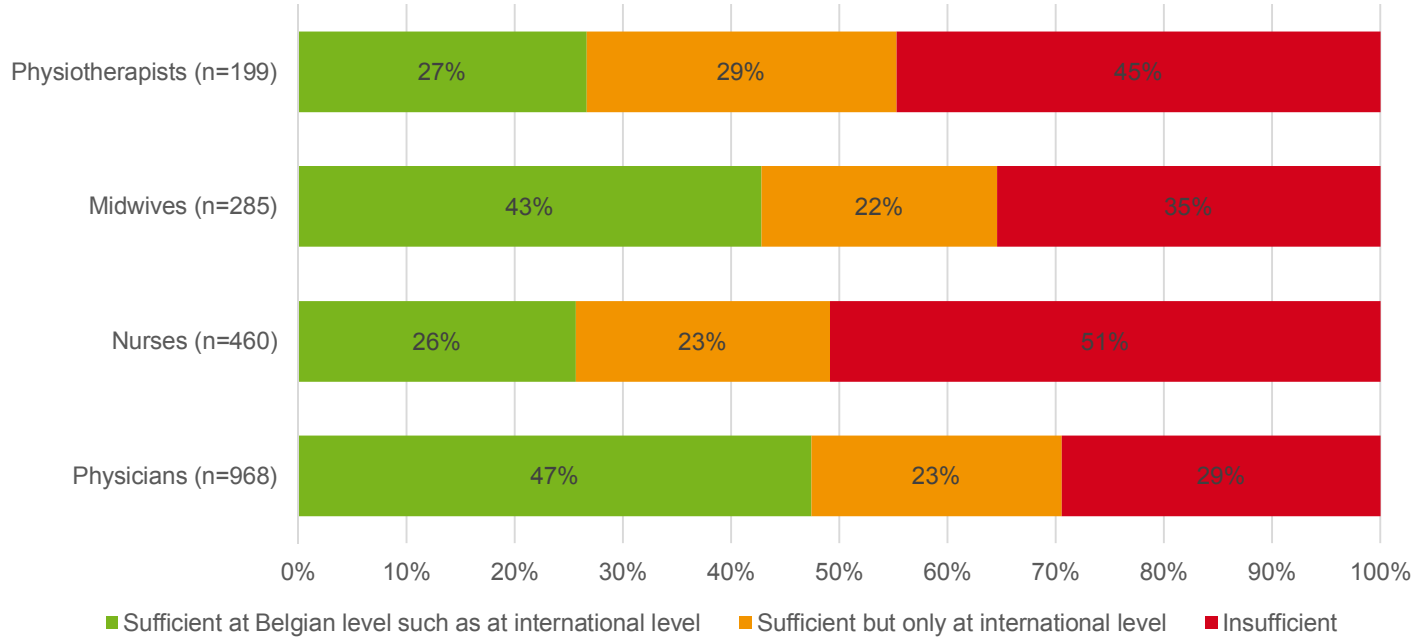
Profession	n	% of KCE guideline knowledge	p
GPs	559	33.1	
GPs in training	88	33.0	0.979*
Specialists	282	29.1	0.237$
Specialists in training	98	7.1	<0.001#

** p-value for comparison between GPs and GPs on training*
$ p-value for comparison between GPs and specialists
 # p-value for comparison between specialists and specialists in training

5.3.2.2 *Is the number of guidelines sufficient for each profession?*

Overall, 37.1% of respondents stated that there is an insufficient number of guidelines addressing their profession (n=709/1912). This is more the case for nurses and physiotherapists (see Figure 11), nurses vs physicians: p< 0.001; physiotherapists vs physicians: p< 0.001), but not for midwives (p=0.162), compared to physicians. No statistical difference was observed between medical disciplines.

Figure 11 – Guideline availability among professionals (n=1912)



5.3.2.3 *How often are guidelines used?*

Figure 12 presents the frequency of guideline use by profession. The proportion of non-users, defined as practitioners consulting guidelines once a year or less, is overall 23.8 % of the respondents. We find the lowest number of non-users among physicians (see Table 14), especially among GPs in training (see Table 15). However, the latter result should be interpreted with caution because of the low number of GPs in training.

Figure 12 – Frequency of guideline use by profession (n=1880)

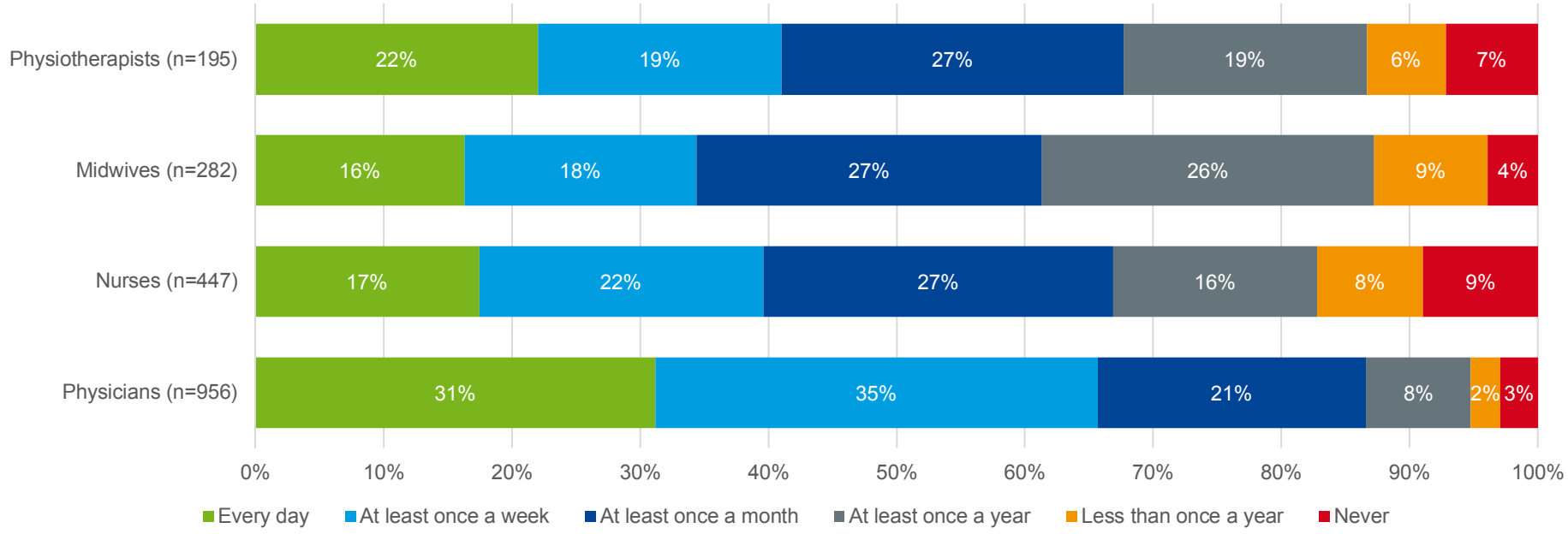


Table 14 –Guideline non-user rate by profession (n=1880)

Profession	n	Guideline non-user rate (%)	p*
Physicians	956	13.4	
Nurses	447	33.1	<0.001
Midwives	282	38.7	<0.001
Physiotherapists	195	32.3	<0.001

** p value of comparison with physicians corrected by Bonferroni method for multiple comparisons*

Table 15 – Guideline non-user rate by physicians (n=956)

Profession	n	% of non-users	p
GPs	528	15.5	
GPs in training	86	2.3	0.001*
Specialists	261	13.0	0.350$
Specialists in training	81	12.3	<0.873#

** p-value for comparison between GPs and GPs in training*

$ p-value for comparison between GPs and specialists

 # p-value for comparison between specialists and specialist in training

In nursing and midwifery a significantly larger proportion of non-users is French speaking (see Table 16). Among physiotherapists less non-users are hospital-based (p=0.046). Among physicians, non-users were mainly French speaking and older than 40 years. After adjustment by age, the language difference disappeared. However, physicians being older than 40 years were 3 times more likely to be a non-user (see Table 17).

Table 16 –Proportion of non-users according practitioners' characteristics by profession (n=1880)

Practitioners characteristics	Physicians		Nurses		Midwives		Physiotherapist	
	(n_{total}) % non -users	p	(n_{total}) % non -users	p	(n_{total}) % non -users	p	(n_{total}) % non -users	p
Gender*		0.160		0.648		0.377*		0.223
F	(429) 1.2		(270) 33.3		(244) 38.1		(87) 36.8	
M	(475) 14.3		(132) 31.1		(5) 60.0		(92) 28.3	
Language		0.009		< 0.001		< 0.001		0.505
French	(458) 16.4		(193) 44.0		(206) 46.1		(38) 36.8	
Dutch	(498) 10.6		(254 24.8		(76) 18.4		(157) 31.2	
Age		< 0.001		0.366		0.084		0.527
≤ 40 y	(404) 6.7		(171) 35.6		(171) 42.7		(68) 29.4	
> 40 y	(552) 18.3		(273) 31.5		(111) 32.4		(127) 33.9	
Workplace		0.459		0.301		0.319		0.046
Hospital	(334) 12.3		(248) 31.0		(184) 40.8		(30) 16.7	
Other	(662) 14.0		(199) 35.7		(98) 34.7		(165) 35.2	

** Fisher Exact test*

Table 17 – Logistic regression: Non-users according the characteristics of physicians (n=956, non-user rate= 47%)

Variables	OR	(95%CI)	p*
Language			0.116
Dutch	1		
French	1.364	(0.926-2.009)	
Age			<0.001
≤ 40 y	1		
> 40 y	2.938	(1.868-4.620)	

Non-user respondents have been asked why they do not use guidelines.

Table 18 presents the three main reasons for being a non-user. The main reason reported by nurses and midwives is the preponderance of hospital protocols. For physicians and physiotherapists, congresses or medical literature is the main source of information. 0 provides full details about reasons to be a non-user of guidelines.

Table 18 – Reasons to be a non-user of guidelines by professions

Variables	n	(%)
Physicians		
I keep abreast of evidence via congresses or medical literature	49	(39)
The experience of colleagues or supervisors is preferred to guideline use	47	(37)
Situations described in guidelines do not fit with situations occurring in my practice	44	(34)
Nurses		
Hospital protocols are preferred to guideline use	91	(61)
I do not know where to find guidelines	44	(30)
The experience of colleagues or supervisors is preferred to guideline use	28	(19)
Midwives		
Hospital protocols are preferred to guideline use	71	(65)
I keep abreast of evidence via congresses or medical literature	31	(28)
I do not know where to find guidelines	25	(23)
Physiotherapists		
I keep abreast of evidence via congresses or medical literature	33	(52)
Own field experience is perceived as more important than guideline use	20	(32)
Situations described in guidelines do not fit with situations occurring in my practice	18	(29)

Among non-users, 78% is willing to use guidelines in the future, 19% doesn't know and 3% is not willing to use guidelines. Figure 13 shows the differences in willingness to use guidelines in the future between professions. There is no statically significant difference in the proportions of practitioners willing to use guidelines in the future between physicians and physiotherapists ($p=0.639$). Physicians and physiotherapists do not differ ($p=0.639$), and were both less willing to use guidelines in the future compared to nurses and midwives (nurses vs physicians: $p<0.001$; midwives vs physicians: $p<0.001$). Note that none nurse respondents answered that they do not want to use guidelines in the future.

Figure 13 – Willingness to use guidelines in the future among non-users by professions (n=432)

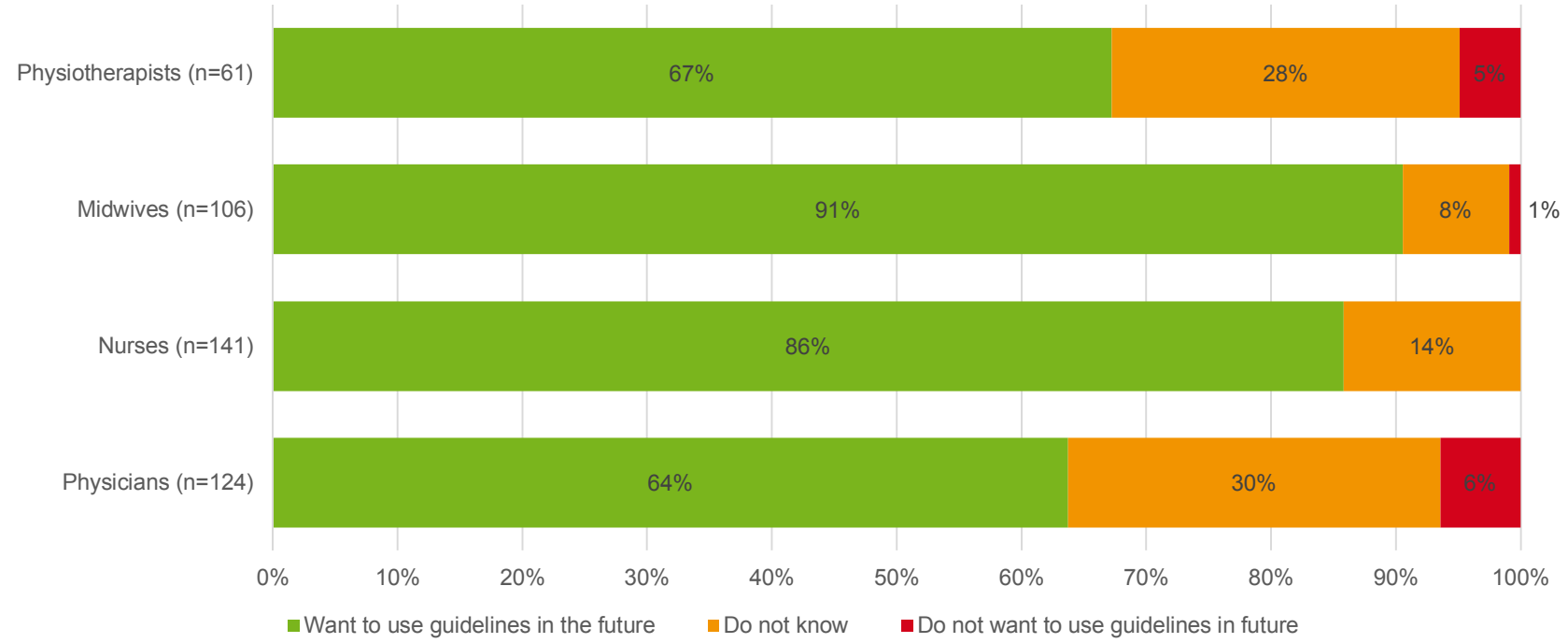


Table 19 shows that nurses' and midwives' age, language, work setting and gender were not associated with the willingness to use guidelines in the future. However, the majority of physiotherapists willing to use guidelines in the future (67.2%) was younger than 40 years. Physicians willing to use guidelines in the future were mostly male (75.0%), Dutch speaking (74.5%) and younger than 40 years (90.0%). However, the logistic regression presented in Table 20 did not find any association with gender after adjustment for language and age. The Dutch speaking physicians were 3 times more likely to have the intention to use more guidelines in the future than the French speaking ones. Younger physicians (≤ 40 year) were 4 times more likely to use more guidelines in the future.

Table 19 –Univariate analysis of practitioners' characteristics among respondents willing to use guidelines in the future by profession (n=432)

Practitioners characteristics	Physicians		Nurses (n=121)		Midwives (n=106)		Physiotherapists (n=61)	
	(n_{total}) % WG	p	(n_{total}) % WG	p	(n_{total}) % WG	p	(n_{total}) % WG	p
Gender*		0.050		0.371		1.000#		0.786
F	(48) 75.0		(90) 84.4		(93) 91.4		(32) 68.8	
M	(68) 57.4		(41) 90.2		(3) 100		(26) 65.4	
Language		0.037		0.220		0.607#		0.321#
French	(73) 56.2		(81) 82.7		(93) 89.2		(13) 53.8	
Dutch	(51) 74.5		(60) 90.0		(13) 100		(48) 70.8	
Age		0.002		0.803		1.000#		0.008
≤ 40 y	(27) 88.9		(60) 86.7		(72) 90.3		(20) 90.0	
> 40 y	(97) 56.7		(81) 85.2		(34) 91.2		(41) 67.2	
Workplace		0.071		0.757		0.498#		1.000#
Hospital	(40) 75.0		(75) 86.7		(73) 91.8		5 (80.0)	
Other	(84) 58.3		(66) 84.3		(33) 87.9		(56) 66.1	

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WG: willingness to use guidelines in the future

Table 20 – Logistic regression: Willingness to use more guidelines according the characteristics of physicians (n=956, non-users= 47%)

Variables	OR	(95%CI)	p*
Gender			0.342
Female	1.5	(0.635-3.7)	
Male	1		
Language			0.014
Dutch	3.0	(1.2-7.2)	
French	1		
Age			0.023
≤ 40 y	4.7	(1.2-17.6)	
> 40 y	1		

5.3.3 Which sources do professionals use to search for evidence?

Table 21 summarises the three main sources of information consulted by professionals when they want to find an answer to issues encountered in their daily practice. Appendix 6.3 shows full results by professions.

While the KCE website is one the 3 main sources of information for midwives, it was the 8th source of information consulted by GPs or specialists. For nurses it was the 5th source of information. Nurses prefer the websites of scientific societies. Only one physiotherapist stated that he consulted KCE website as a source of information.

While EBMPracticeNet belonged to the 3 main sources of information for GPs, it was the 10th source of information consulted by specialists. EBMPracticeNet was the 7th source used by nurses and midwives.

CEBAM Digital Library of Health (CDLH) was not cited in the top 3 of information sources. It was the 5th source of information for the physiotherapists. Nurses and midwives used CDLH as 6th source of information. Finally, CDLH is the 7th source of information used by GPs and specialists.

Table 21 – Three main sources of information to answer a question related to the daily practice by profession (n=2412)

Source of information to answer a question related to the daily practice	n	(%)
Physicians (n=1074)		
Colleagues	741	(71)
Paper or digital documentation available at work (protocols or clinical pathway)	627	(60)
Common search engine (Google, Google scholar, Bing…)	407	(39)
Nurses (n=642)		
Paper or digital documentation available at work (protocols or clinical pathway)	404	(63)
Colleagues	369	(57)
Common search engine (Google, Google scholar, Bing…)	278	(43)
Midwives (n=340)		
Colleagues	269	(79)
Paper or digital documentation available at work (protocols or clinical pathway)	215	(63)
KCE website	148	(44)
Physiotherapists (n=383)		
Common search engine (Google, Google scholar, Bing…)	240	(63)
Colleagues	234	(61)
Paper or digital documentation available at work (protocols or clinical pathway)	166	(43)

5.3.3.1 *Do professionals actively search guidelines?*

Overall, 82% of respondents stated that they sometimes search for guidelines. As shown in Table 22, physicians searched more for guidelines than other professions. Among physicians, GPs in training (search rate: 97.7%), searched more for guidelines than GPs (search rate: 86.3%, p=0.003, see Table 23). There is no statistically significant difference observed between GPs and specialists and between specialists and specialists in training (see Table 23).

Table 22 –Guideline search rate by profession (n=1849)

Profession	n	Guideline search rate (%)	p*
Physicians	950	87.5	
Nurses	433	76.9	<0.001
Midwives	275	72.0	<0.001
Physiotherapists	191	79.1	0.006

** p value of comparison with physicians corrected by Bonferroni method for multiple comparisons*

Table 23 – Guideline search rate by physician type (n=950)

Profession	n	Guideline search rate (%)	p
GPs	524	86.3	
GPs in training	86	97.7	0.003*
Specialists	259	87.6	0.591$
Specialists in training	81	84.0	0.392#

** p-value for comparison between GPs and GPs in training*
$ p-value for comparison between GPs and specialists
 # p-value for comparison between specialists and specialists in training

None of the practitioners' characteristics is linked to the search for guidelines by physiotherapists (see Table 34). However, the proportion of practitioners searching for guidelines is significantly higher in female physicians (p=0.040), Dutch speaking physicians (p=0.001) or physicians younger than 40 years (p=0.001). In nursing, only speaking Dutch and age (> 40 year) is significantly associated with a higher proportion searching for guidelines. In midwifery, same as in nursing, speaking Dutch and age (> 40 year) is statistically significantly associated with a higher proportion of practitioners searching for guidelines but an association was also found with the working place.

Table 24 –Proportion of practitioners searching guidelines according practitioners' characteristics by profession (n=1849)

Practitioners characteristics	Physicians		Nurses		Midwives		Physiotherapist	
	(n_{total}) % searching	p	(n_{total}) % searching	p	(n_{total}) % searching	p	(n_{total}) % searching	p
Gender*		0.040		0.095		0.566*		0.265
F	(429) 90.0		(270) 75.2		(244) 71.7		(87) 75.9	
M	(475) 85.5		(132) 82.6		(5) 60.0		(92) 82.6	
Language		0.001		0.001		0.003		0.573
French	(455) 83.7		(189) 69.3		(200) 67.0		(37) 75.7	
Dutch	(495) 90.9		(244) 82.8		(75) 85.3		(154) 79.9	
Age		0.001		0.006		0.034		0.718
≤ 40 y	(402) 91.8		(170) 70.0		(169) 67.5		(67) 77.6	
> 40 y	(548) 84.3		(263) 81.4		(106) 79.2		(124) 79.8	
Workplace		0.595		0.893		<0.001		0.531
Hospital	(332) 87.1		(245) 77.1		(181) 65.2		(30) 83.3	
Other	(618) 88.3		(188) 76.6		(94) 85.1		(161) 78.3	

** Fisher exact test;*

Multivariate analyses show that after adjustment for language and age, female physicians do no longer stand out in searching guidelines (p=0.319) . However, Dutch speaking physicians and physicians less than 40 year old were 2 times more likely to search for guidelines than those who are French speaking (p=0.003) and older than 40 year (p=0.009). In nursing, language and age remained associated after adjustment (see Table 26). For midwives, age was no longer relevant (p=0.065) after adjustment, But Dutch language (p=0.049) and workplace (p=0.006) were.

Table 25 – Logistic regression: Guideline searching according the characteristics of physicians (n=950, proportion of practitioners searching for guideline = 87.5%), nurses (n=433, proportion of practitioners searching for guideline = 76.9%) and characteristics of midwives (n=275, proportion of practitioners searching for guideline = 72%)

Variables	OR	(95%CI)	p*
Physicians			
Gender			0.319
F	1.2	(0.8-1.9)	
M	1		
Language			0.003
Dutch	1.9	(1.2-2.9)	
French	1		
Age			0.009
≤ 40 year	1.9	(1.2-3.0)	
> 40 year	1		
Nurses			
Language			0.001
Dutch	2.1	(1.3-3.3)	
French	1		
Age			0.008
≤ 40 year	1		
> 40 year	1.9	(1.2-2.3)	
Midwives			
Language			0.049
Dutch	2.1	(1.0-4.4)	
French	1		
Age			0.065
≤ 40 year	1		
> 40 year	1.7	(1.0-3.1)	
Workplace			0.006
Hospital	1		
Other	2.5	(1.3-5.0)	

Table 26 presents the three main tools used to search guidelines by profession. In all professions asking colleagues is reported in top 3 of ways to find guidelines. Informal communication remains therefore important. While all professions used common search engines (i.e. Google…), midwives did not used it as a top 3 tools to find guidelines.

Midwives also used the KCE Website as the main source of guidelines while this was the 8th source consulted by nurses (28% of them consulted the KCE Website) and the 9th source reported by physicians and physiotherapists (consulted by 17% of physicians and 15% of physiotherapists).

Databases, such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH), were the main source of guidelines used by physicians. One out of two physicians used it. This proportion increased to 59% for GPs and 60% for physicians in training while only 30% of specialists used it. Seventy-five percent of specialists used peer reviewed scientific literature to find guidelines. These databases were the 5th source of guidelines reported by midwives and physiotherapists, respectively by 38% and 40% of them. Finally, nurses considered these databases as the 7th source of guidelines (i.e. 40% of them).

Detailed results are provided in Appendix 6.3.

Table 26 – Three main search tools for guidelines by profession (n=1513)

Tools for searching guidelines	n	(%)
Physicians (n=831)		
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH)…	425	(51)
Common search engine (Google, Google scholar, Bing…)	390	(47)
Colleagues	384	(46)
Nurses (n=333)		
Common search engine (Google, Google scholar, Bing…)	214	(64)
Website of my scientific society	195	(59)
Colleagues	187	(56)
Midwives (n=198)		
KCE website	136	(69)
Colleagues	113	(57)
Website of my scientific society	111	(56)
Physiotherapists (n=151)		
Common search engine (Google, Google scholar, Bing…)	97	(64)
Colleagues	84	(56)
Specialised press	69	(46)

5.3.3.2 *Do professionals receive information on new guidelines or updates?*

Overall, 33% of the respondents stated that they received information regarding the publication or the update of guidelines. Physicians were significantly better informed than the other professions (see Table 27). There is no statistically significant difference in information rate between nurses, midwives and physiotherapists. In physicians, there no difference between GPs and specialists or between GPs and GPs in training. However, as shown in Table 28, there is a statistically significant difference between specialists and specialists in training (information rate specialists 49.4% vs specialists in training 15.0%, p<0.001).

Table 27 –Information rate by profession (n=1832)

Profession	n	Information rate (%)	p*
Physicians	943	44.4	
Nurses	428	22.9	<0.001
Midwives	271	21.4	<0.001
Physiotherapists	190	18.9	<0.001

** p value of comparison with physicians corrected by Bonferroni method for multiple comparisons*

Table 28 – Information rate by physician type (n=943)

Profession	n	Information rate (%)	p
GPs	521	47.8	
GPs in training	85	36.5	0.052*
Specialists	257	49.4	0.670$
Specialists in training	80	15.0	<0.001#

** p-value for comparison between GPs and GPs in training*

$ p-value for comparison between GPs and specialists

 # p-value for comparison between specialists and specialists in training

Information channels to receive information are described in Table 29. Full details are provided in Appendix 6.5. In the top 3 information channels, all professions reported symposia, congresses, conferences and mailings. Excepted for physicians, the third information channel is 'scientific societies'. However, when GPs and specialists are analysed separately, the top 3 channels are specialised press, mailing and scientific societies for GPs and symposiums, congresses, conferences, specialised press and scientific societies for specialists (see Appendix 6.5.).

Table 29 – Three main information channels for guideline publication or update by profession (n=611)

Tools for searching guidelines	n	(%)
Physicians (n=419)		
Specialised press	242	(58)
Symposia, congresses, conferences	234	(56)
Mailing	224	(53)
Nurses (n=98)		
Symposia, congresses, conferences	73	(74)
Scientific societies	69	(70)
Mailing	63	(64)
Midwives (n=58)		
Scientific society	47	(81)
Symposia, congresses, conferences	33	(50)
Colleagues / Mailing	29	(50)
Physiotherapists (n=36)		
Scientific society	22	(61)
Mailing	22	(61)
Symposia, congresses, conferences	20	(56)

5.3.4 Barriers and drivers for guideline use

English is an obstacle for nearly one out of four respondents (39%). The English language is especially troubling GPs (45%), nurses (48%) and midwives (60% see Table 30). However, usage of common (or simplified) language did not meet a specific need of end-users.

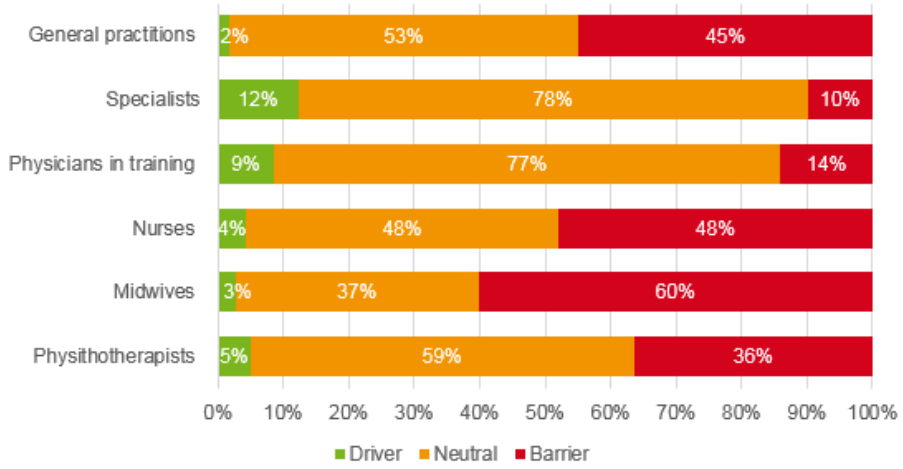
Multidisciplinary guidelines are especially valued by midwives, nurses and physiotherapists. Summaries of existing guidelines and adaptations to the Belgian context of high quality international guidelines are formats appreciated by all professions (see Table 30).

High quality international guidelines adapted to the Belgian context and Belgian scientific societies and associations are clearly mostly trusted by all professions. The attitude is more neutral when foreign scientific societies and associations are considered (see Table 30).

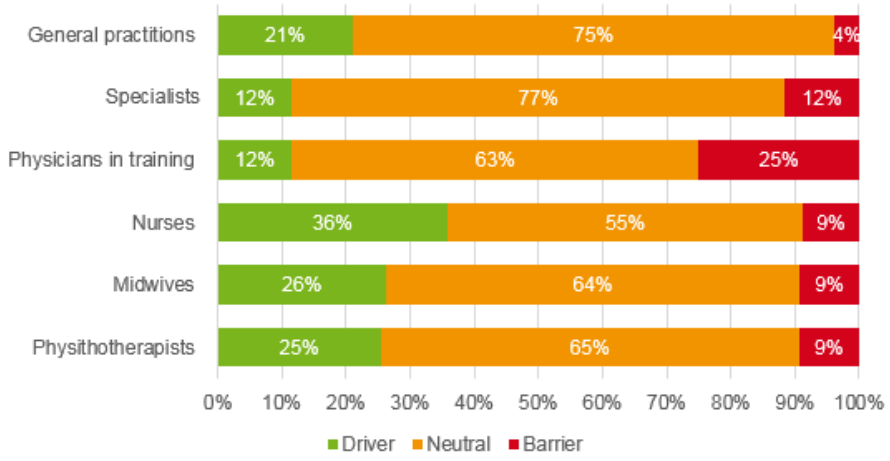
A list of other drivers and barriers proposed by respondents is provided in Appendix 6.6.

Table 30 – Barriers and drivers for guideline use related to format and content of guidelines

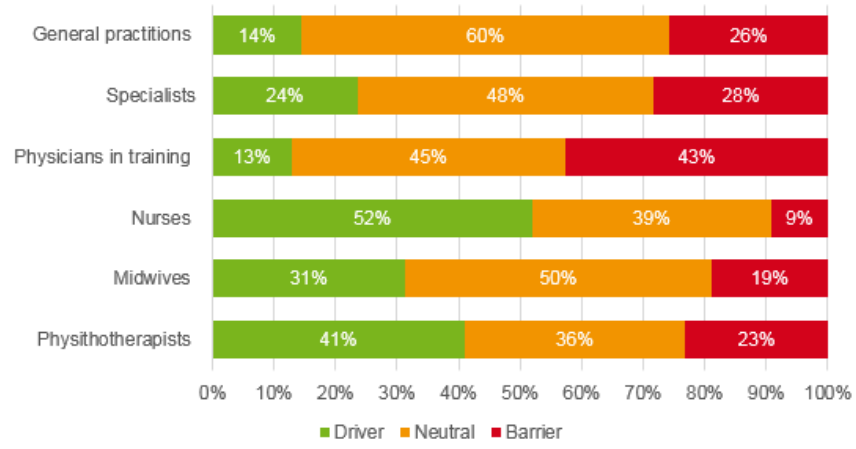
Guideline written in English



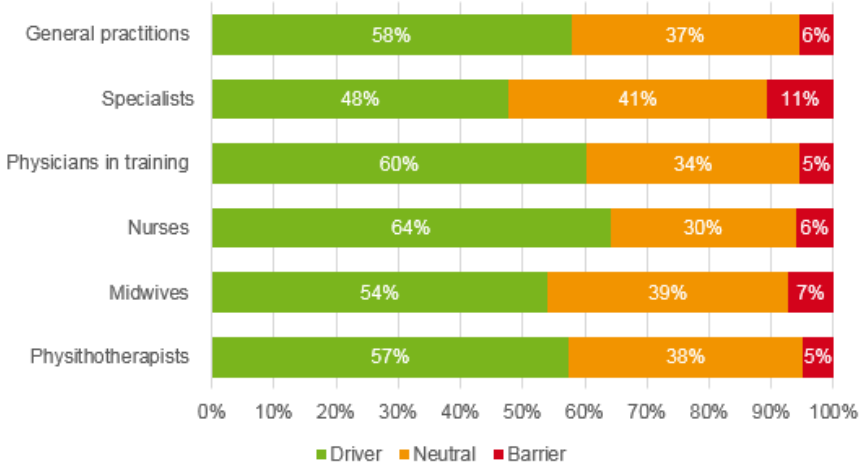
Use of common (simplified) language



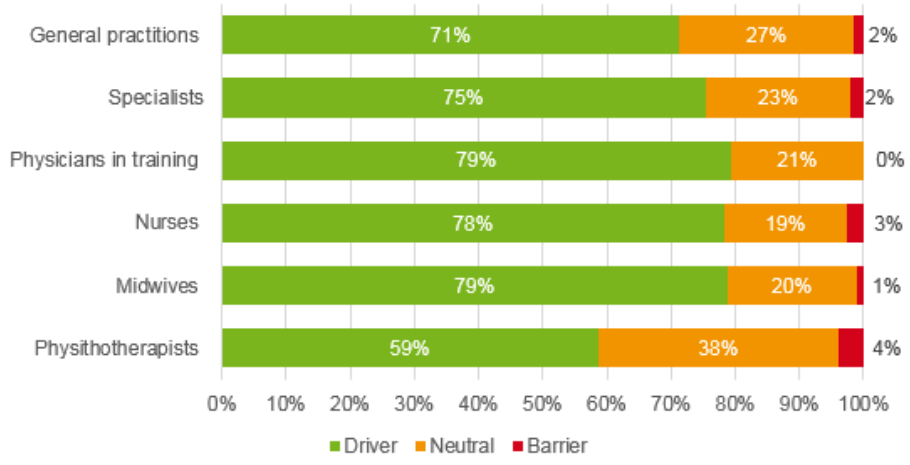
Multidisciplinary guideline



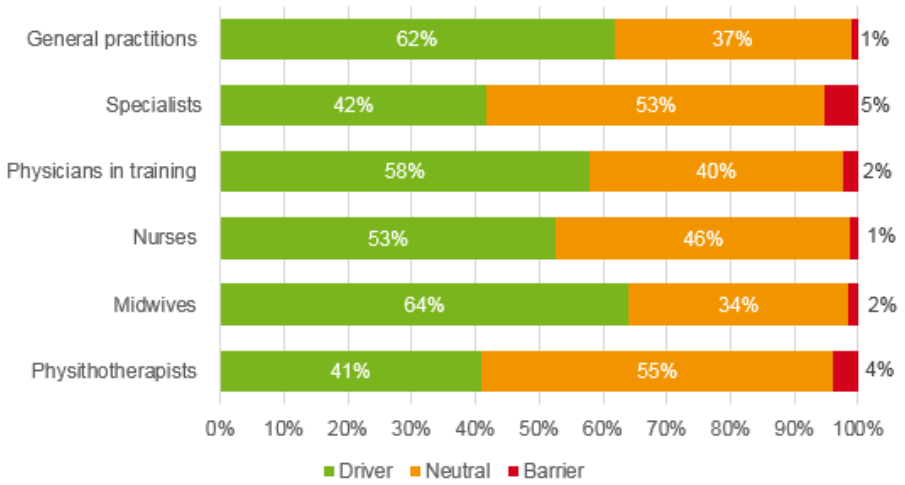
Summary of existing guidelines



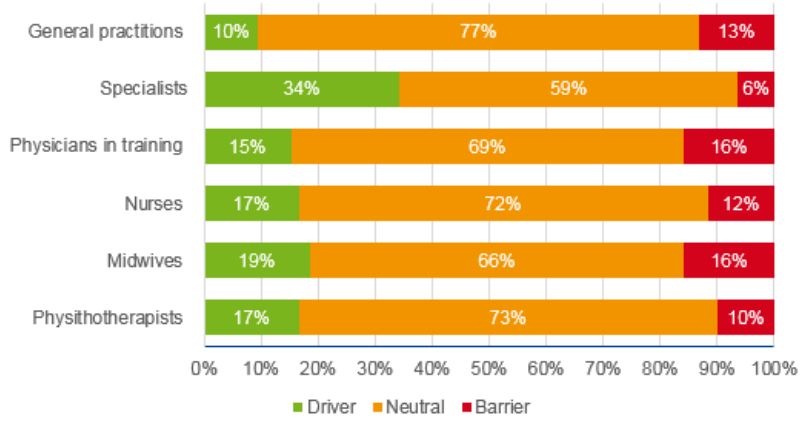
High quality international guidelines adapted to the Belgian context



Guidelines developed by Belgian scientific society or organisation



Guidelines developed by foreign scientific society or organisation



General practitioners n = 505
Specialists n = 251
Physicians in training n = 164
Nurses n = 410
Midwives n = 259
Physiotherapists n = 181

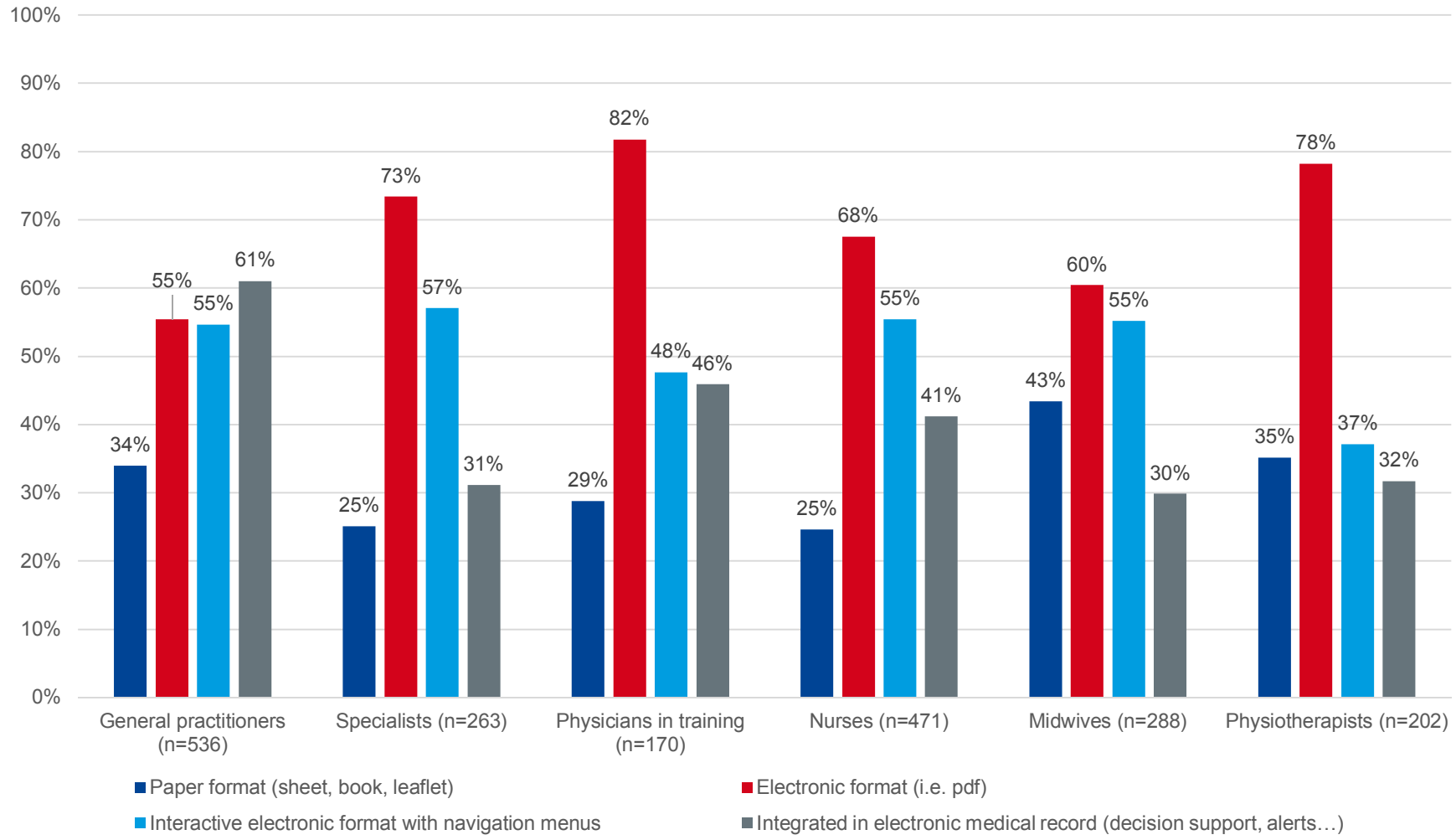
5.3.5 Guideline outputs

5.3.5.1 Which format has the preference?

It was asked to choose one or more formats from a list of four output formats (paper, electronic format, interactive electronic format with navigation menus or guidelines integrated in medical record).

Overall, electronic format, such as pdf files, are the preferred format except for GPs preferring guidelines integrated in the medical file (see Table 31). Interactive electronic format with navigation menus is the second choice. The attractiveness of paper version varied between professions but never reached 50% of respondents.

Table 31 – Reported preferred support for guidelines by profession (n=1930)



5.3.5.2 *Which type of guideline is preferred?*

The participants made a choice between 3 formats of guidelines:

- Comprehensive guidelines (i.e: recommendations regarding screening, diagnosis, treatments and follow-up)
- Guidelines focused on one clinical question (i.e. recommendations regarding treatments)
- Rapid recommendations (i.e. recommendations regarding one specific treatment without reporting evidence)

1) All professions prefer comprehensive guidelines. Their second choice is focused guidelines. All professions also state that rapid recommendations are less useful.

5.3.5.3 *What should be included in a guideline?*

According to the Guide M Model (see literature above), information relative to content development, the consulted literature and the discussion of results must be reported in each guideline to facilitate implementability. In the survey, professionals were asked whether this information should indeed be included in each guideline.

Content development

As shown in Figure 15, detailed reporting on the method used to develop a guideline is considered as essential by specialists, nurses and physiotherapists while GPs, physicians in training and midwives considered it as useful but not essential.

Reporting of the GDG composition is considered useful but not essential by all professions except for specialists. They consider this information as essential.

Finally, the reporting of conflict of interest is essential for more than a half of GPs, physicians in training and midwives. In contrast, 48% of physiotherapists stated that the reporting of conflict of interest is useless.

Figure 14 – Preference between guideline forms by profession (n GPs=515; n Specialists= 255; n Physicians in training = 164; n Nurses = 418; n Midwives = 267; n Physiotherapists = 185)

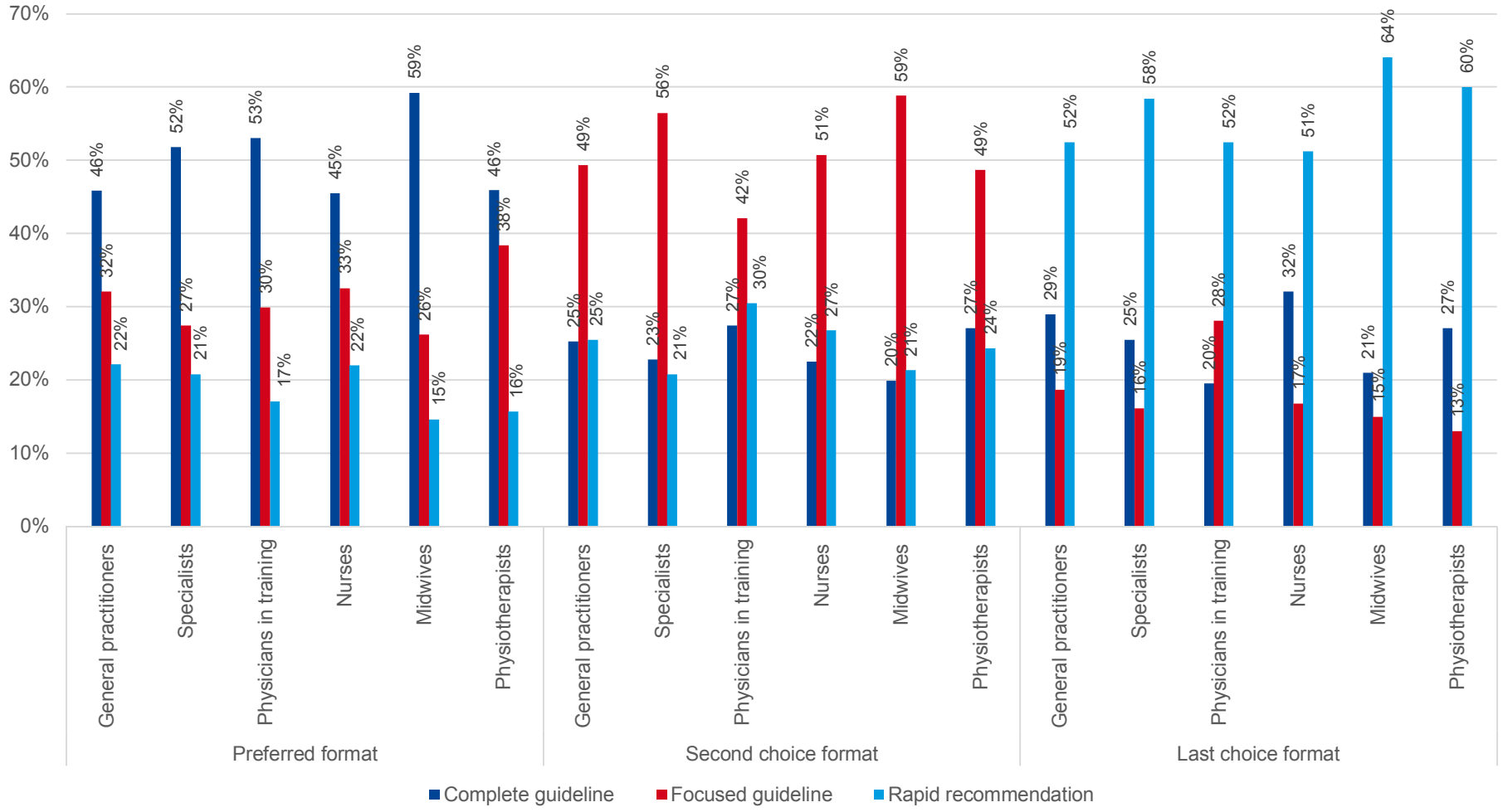
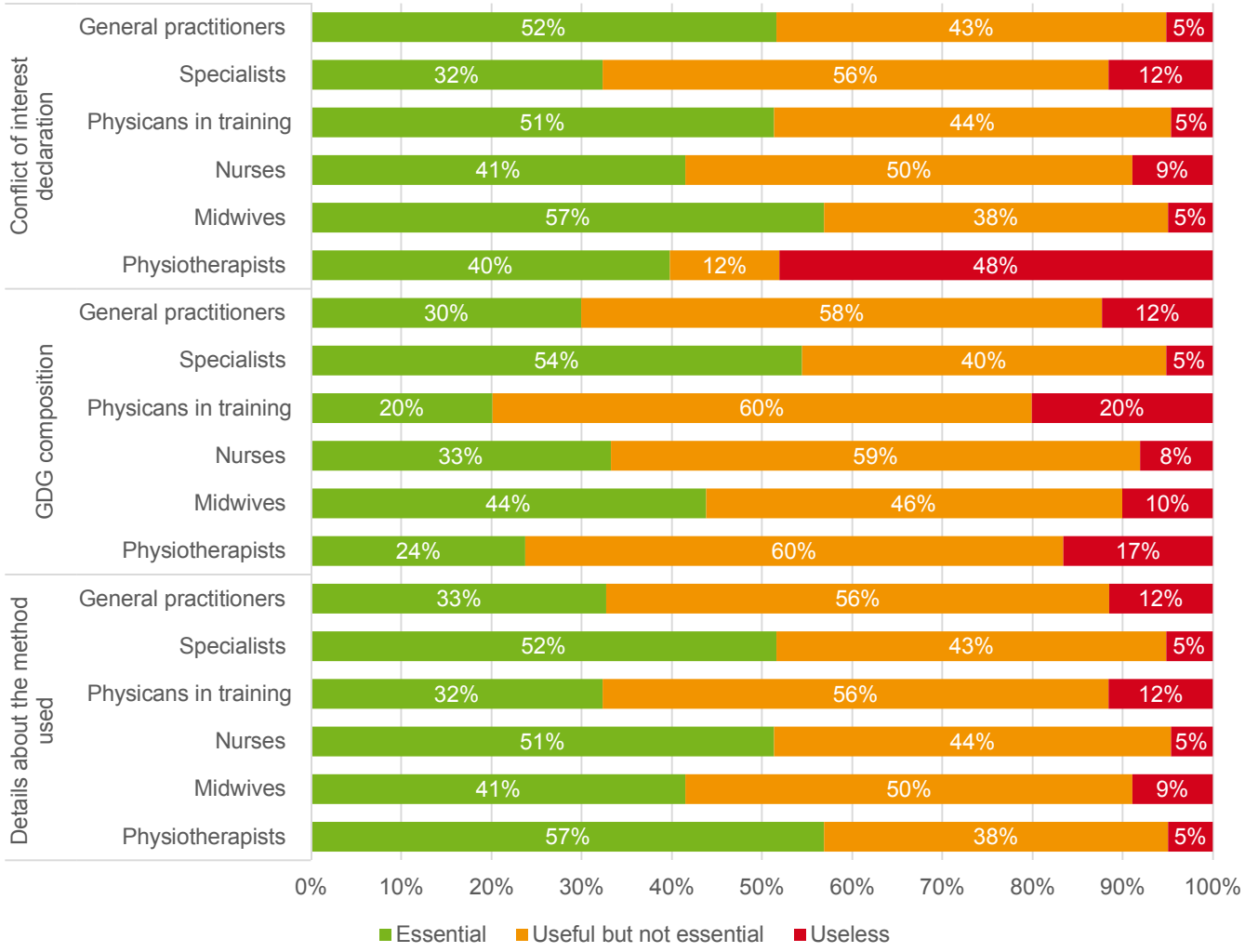


Figure 15 – Reported interest by profession in reporting conflict of interest, GDG composition and details on method (n GPs=504; n Specialists= 250; n Physicians in training = 164; n Nurses = 409; n Midwives = 258; n Physiotherapists = 181)



Presentation of literature and recommendations

As shown in Figure 16, a summary of the recommendations, the level of evidence and the strength of recommendations were rated as essential elements for all professions with a high level of agreement. More than half of all health professions stated that an overview of the literature supporting recommendations was essential with exception of the GPs. The ladder mainly considered this overview as useful but not essential. Details on quality assessment and evidence tables seem to be useful but not essential for all professions.

Information regarding contextualisation and deliberation

Discussing economic issues associated with the proposed recommendations was considered as useful but not essential by all professions. Deliberation about benefit and harm linked to recommendations and an implementation plan were rated as essential by all professions. Reporting of patient preferences was considered as useful but not essential by all professions except nurses and midwives. They considered patient preferences to be essential.

Tools supporting the use of guidelines

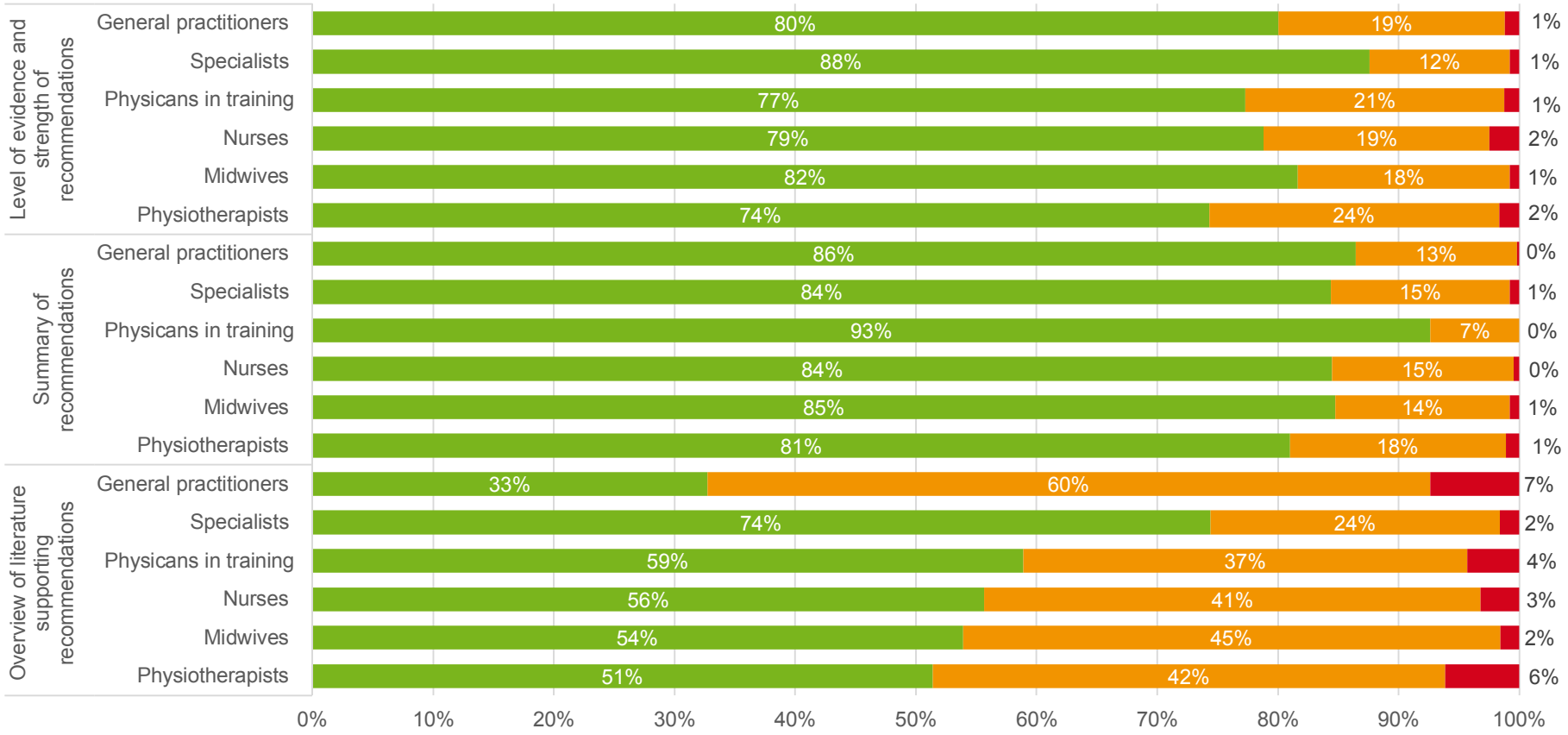
Provide a central point to retrieve quality guidelines and clinical trees included in guidelines were considered as essential by all professions.

Nurses, midwives and physiotherapists considered patients leaflets as an essential tool while physicians considered it as useful but not essential. Tools supporting carer-patient communication were esteemed as essential by nurses and physiotherapists, while physicians and midwives considered it as useful but not essential.

Decision aids for professionals (calculator, risk assessment tool…) seem to be essential for GPs, nurses and midwives and useful but not essential for the other professions.

Finally, online trainings for guideline use (video to explain conclusions, targeted population…) were considered useful but not essential by all professions

Figure 16 – Reported interest by profession in reporting conflict of interest, GDG composition and details on method (n GPs=501; n Specialists= 250; n Physicians in training = 163; n Nurses = 406; n Midwives = 256; n Physiotherapists = 179)



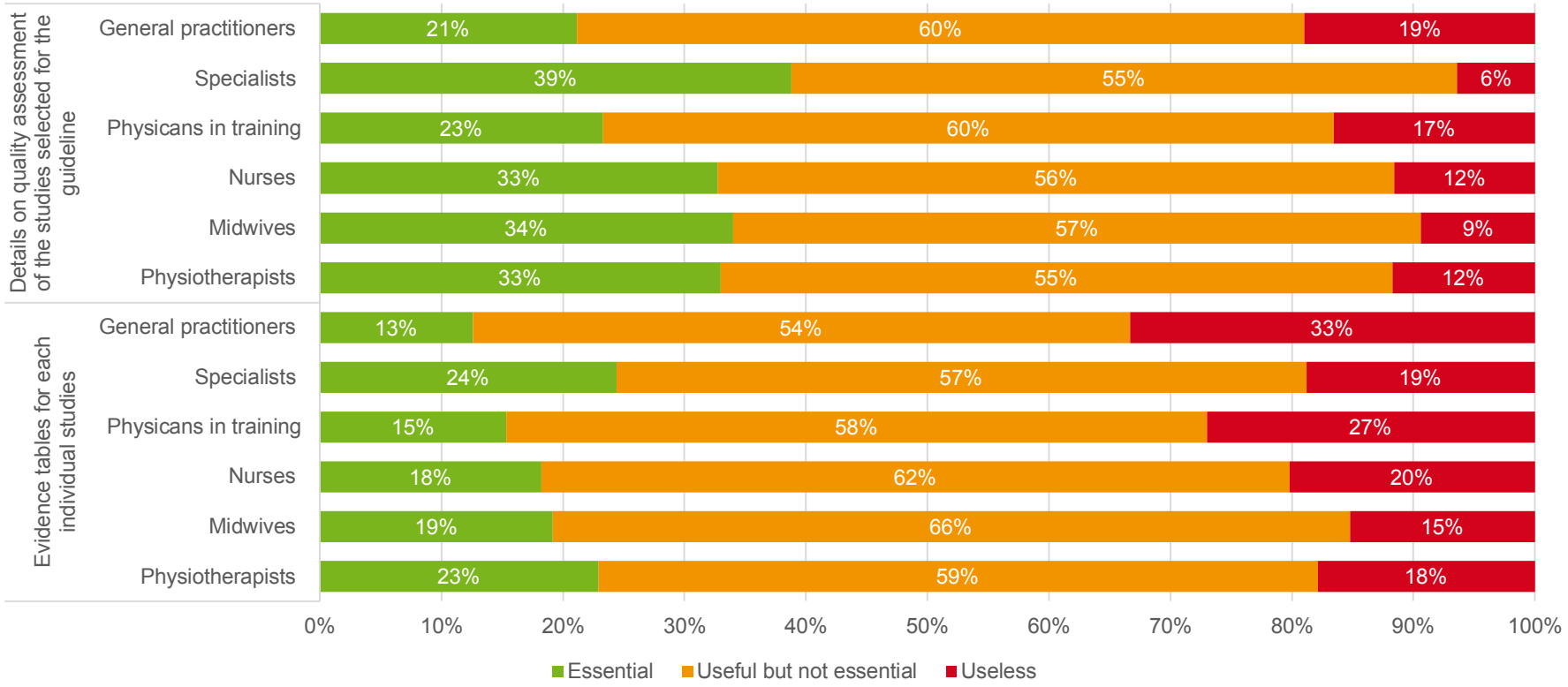
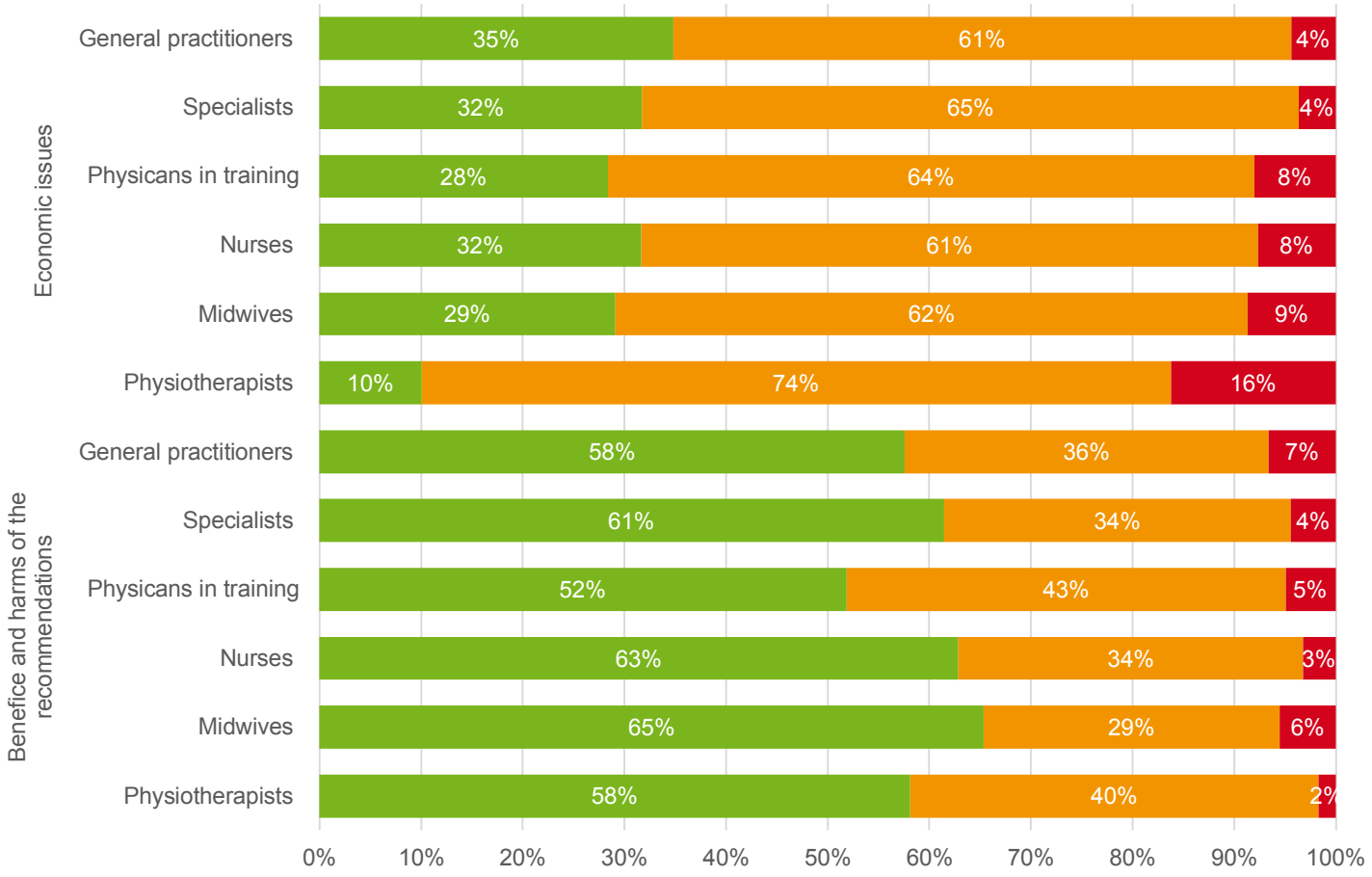

Details on quality assessment of the studies selected for the guideline
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
21%
60%
19%
39%
55%
6%
23%
60%
17%
33%
56%
12%
34%
57%
9%
33%
55%
12%
Evidence tables for each individual studies
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
13%
54%
33%
24%
57%
19%
15%
58%
27%
18%
62%
20%
19%
66%
15%
23%
59%
18%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Essential
Useful but not essential
Useless

Figure 17 – Reported interest by profession in contextualisation and deliberation related to economic issues, benefice and harms, implementation plan and patient preferences (n GPs=500; n Specialists= 249; n Physicians in training = 162; n Nurses = 404; n Midwives = 254; n Physiotherapists = 179)



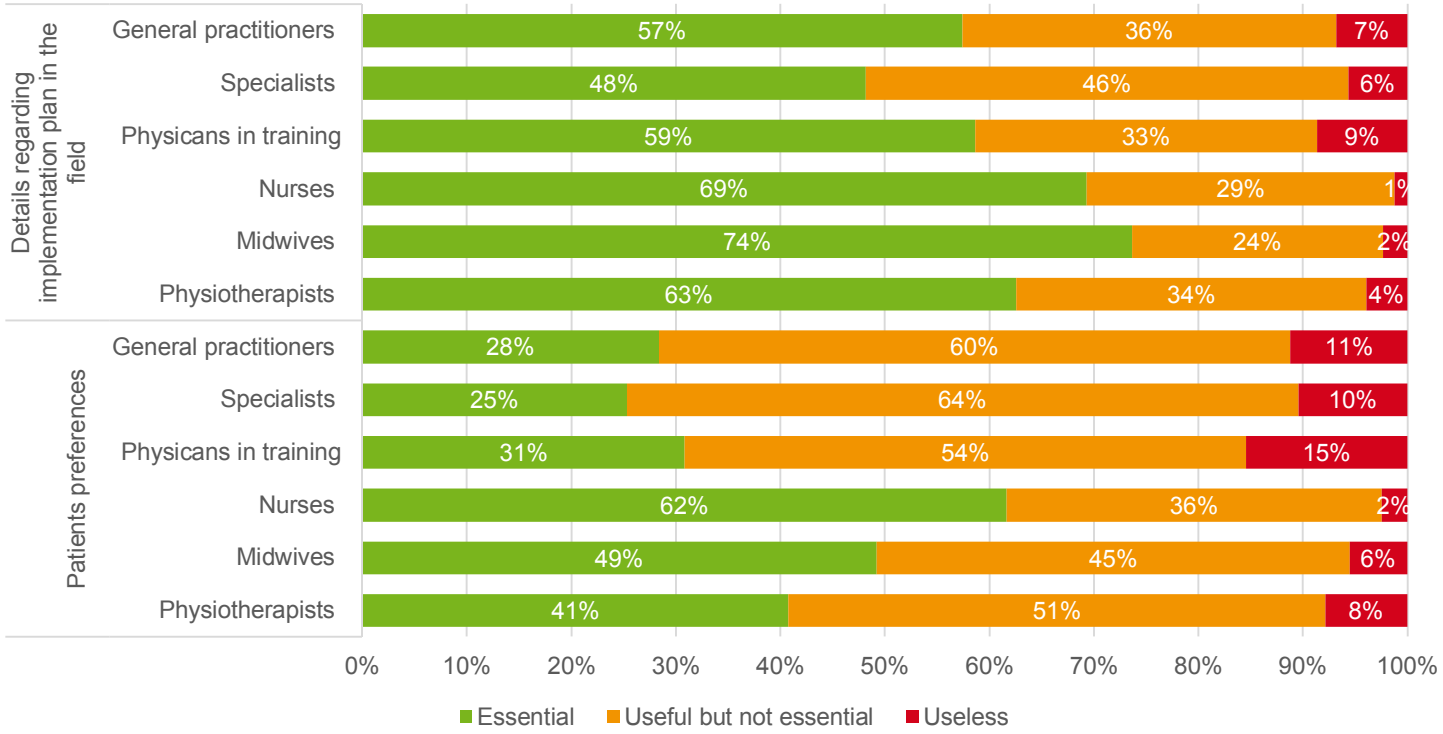
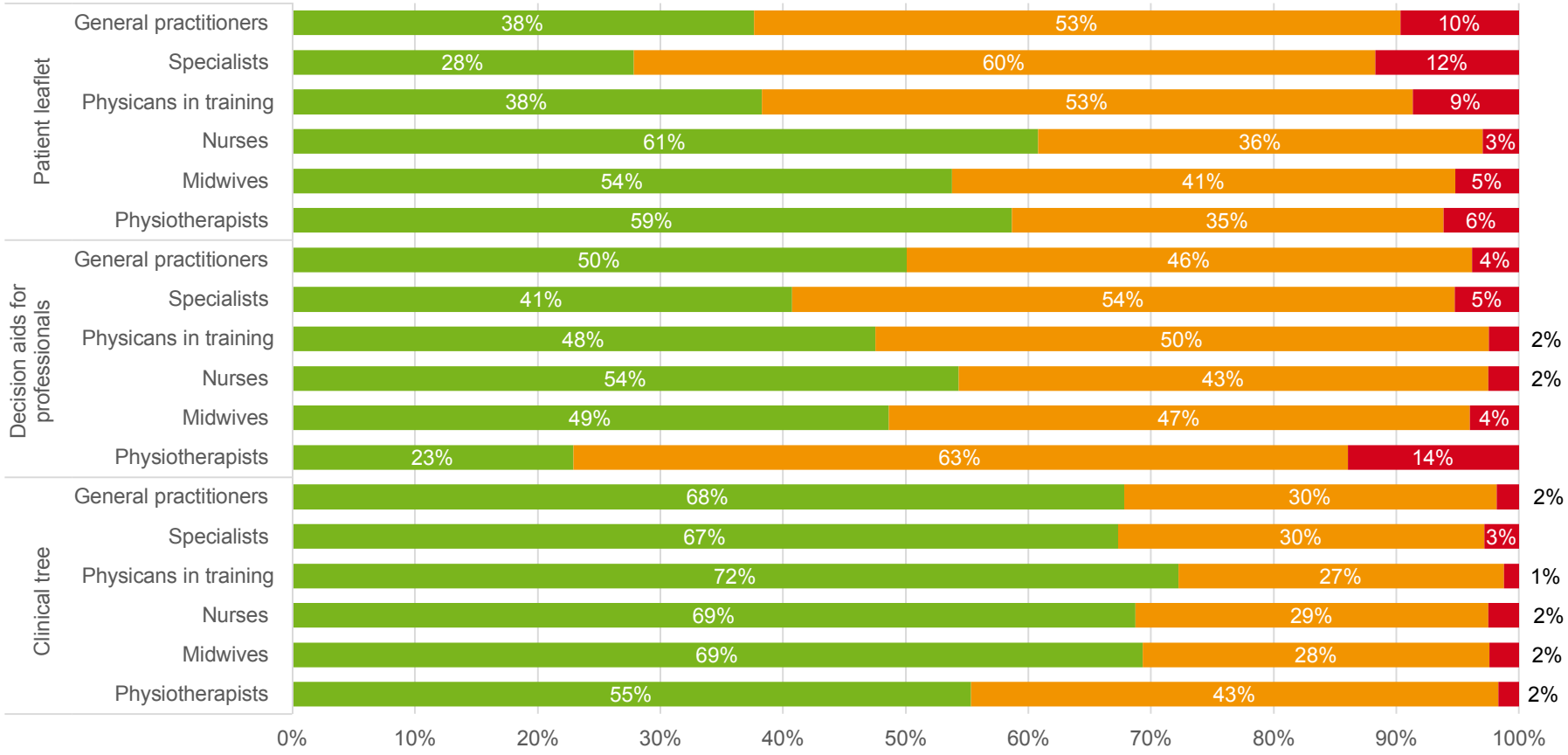
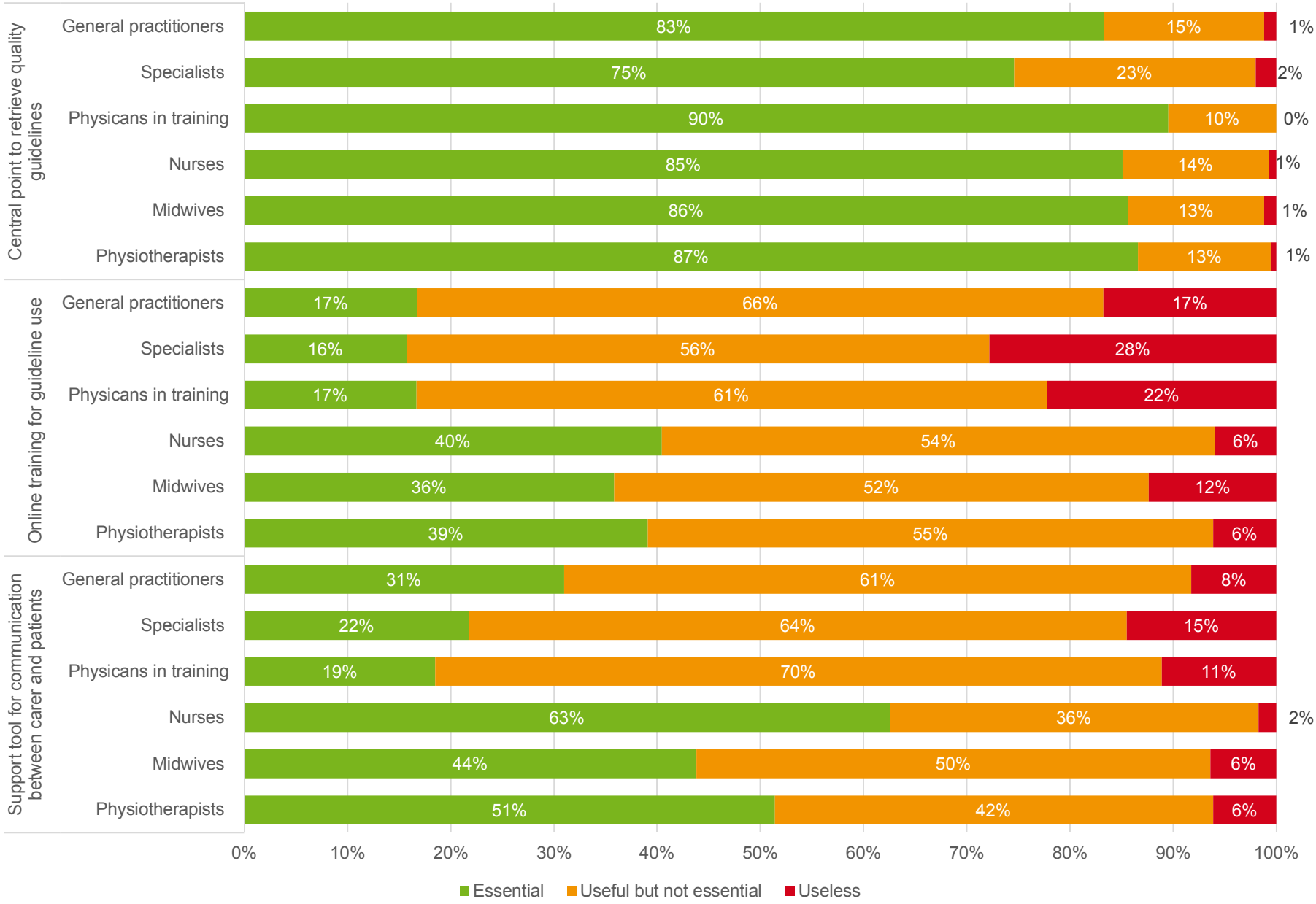

Details regarding implementation plan in the field
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
57%
36%
7%
48%
46%
6%
59%
33%
9%
69%
29%
1%
74%
24%
2%
63%
34%
4%
Patients preferences
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
28%
60%
11%
25%
64%
10%
31%
54%
15%
62%
36%
2%
49%
45%
6%
41%
51%
8%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Essential
Useful but not essential
Useless

Figure 18 – Reported interest by profession in tools supporting the usage of guidelines (n GPs=497; n Specialists= 248; n Physicians in training = 162; n Nurses = 403; n Midwives = 251; n Physiotherapists = 179)




Central point to retrieve quality guidelines
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
83%
15%
1%
75%
23%
2%
90%
10%
0%
85%
14%
1%
86%
13%
1%
87%
13%
1%
Online training for guideline use
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
17%
66%
17%
16%
56%
28%
17%
61%
22%
40%
54%
6%
36%
52%
12%
39%
55%
6%
Support tool for communication between carer and patients
General practitioners
Specialists
Physicans in training
Nurses
Midwives
Physiotherapists
31%
61%
8%
22%
64%
15%
19%
70%
11%
63%
36%
2%
44%
50%
6%
51%
42%
6%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Essential
Useful but not essential
Useless

5.4 Discussion

To improve the KCE guideline development process, the survey was set up to understand the Belgian health care professionals' needs and expectations for (KCE) guidelines. Therefore, we surveyed physicians, nurses, midwives and physiotherapists. Based on a preparatory qualitative research, these health professionals were the most experienced in guideline use in Belgium at that point of time. Our survey showed that one out of five respondents did not know what a guideline is. This emphasizes the need for (continuing) education and training about EBP in the different professional disciplines. Knowledge was more spread in physicians than in other professionals, reflecting the earlier set up of evidence practice policy (and the corresponding educational curricula) in medicine. However, another explanation of this finding might be the lack (or limited number) of guidelines available for the other professions in Belgium. Consequently, a lower rate of guideline non-users was observed in physicians (13.4%) in comparison with other professionals, among which more than a third never or very sporadically used guidelines. One has to take into account however that the working conditions of the different health providers differ substantially. GPs are confronted with a very broad scale of medical problems and can access guideline on the spot during their consultation sessions, while nurses work bed side and more often work with care protocols (which should be derivatives of EBP guidelines)[89]. Physiotherapists and midwives are confronted with a smaller range of health problems, which implies that they do not need to consult guidelines as frequently as GPs. The present survey results also showed that health practitioners were not always aware of the existence of guidelines. Similar results were seen in another study where physiotherapists experienced difficulties to get aware of guideline existence[90]. This might explain the higher rate of non-users. This emphasizes the need to communicate effectively regarding the release of new guidelines, however taking care not to overload the end users with information.

All health care professionals in our study preferred the use of a full guideline. However, we observed a discrepancy between the hierarchy of end-users' information needs and the mandatory order of guideline elements to date (i.e. AGREE criteria)[48] . Therefore, communication of guideline content toward professionals should be aligned with the hierarchy of end-users' information needs presenting first a summary of recommendations, accompanied by levels of evidence and strength of recommendations (perceived as an essential elements by respondents and already done in KCE syntheses) and move less required elements for end-users to the end of the guideline communication product (i.e. literature overviews, evidence tables and details of quality assessment). Because an electronic format is preferred by the respondents, the information may be delivered in a specific (tailored) order according the information needs as expected by each end-user. An important point of attention, is that this product has to be delivered in their native language because English is considered as a barrier to guideline use by most of the respondents. Because of a large consensus among respondents, the production of guidelines may originate from foreign high quality guidelines adapted to the Belgian context. Guidelines, developed in Belgium are however also appreciated by the end users, in contrast with unadapted foreign guidelines. Tailoring the communication to the audience needs might increase the uptake of information[91]. Therefore, guidelines have to be presented with tools such as a clinical tree, a summary or communication aids to enhance their uptake[8, 48].

Understanding how professionals receive information about guidelines and how they search for it is informative to design a dissemination policy. The information exchange regarding EBP is mainly provided by oral communications (such as symposia, congresses, conferences), mailing or scientific society communications. Therefore these information channels should be used more proactively when a dissemination plan is set up. Approximately 8 out of 10 respondents search actively for guidelines. Whatever their background, all respondents highlighted the need of a central point to retrieve high quality guidelines. This expressed need is in line with the recommendation of a previous KCE report focusing on dissemination and implementation of clinical practice guidelines in Belgium[1]. EBMPracticeNet needs to be used as central point for dissemination of guidelines because, as shown in the survey, it is already largely used by

GPs and another study showed that difficulties in accessing guideline databases were described as a significant barrier for EBP implementation[92]. The lower usage of EBMPracticeNet by other professionals may reflect the fact that the present content at the time of the survey was primordially for physicians while EBMPracticeNet has started more recently with developing activities toward other professionals. The EBNursing study also emphasized the nurses' need for a specific central database consisting of clear guidance on these nursing techniques[93]. Easy access to guidelines was also mentioned as an important driver for EBP use. However, a recent study in Belgian GPs[94] shows that access by means of an eID card was perceived as difficult and time consuming (a barrier) by one out of five.

To our knowledge, this survey is one of the larger studies on EBP guideline use among Belgian health care professionals. However, one has to take into account that we used a convenience sampling strategy, which implies that our sample might be biased. Although we attempted to reach all types of health professionals (in terms of work place, age, gender, EBP knowledge) the generalisation of our results may be potentially hampered by the characteristics of our respondent sample. The present sample might probably be more sensitive of positive to the guideline issues and guideline knowledge might be overestimated. Checking representability of respondents is challenging because of the large number of confounding factors. All these factors are unfortunately not reported by health professions at national level. Therefore, we try to adjust our results by multivariate analysis for characteristics of practitioners available in our survey.

5.5 Conclusions

Data retrieved from this survey inform us about how to adapt the KCE guideline development process. Knowledge regarding EBP in general, guideline use in real practice and existence of guidelines in Belgian health professionals is insufficient. There is a specific need for a central dissemination platform consisting of a minimal number of guidelines (critical mass) per professional discipline in the native language. Full guidelines are appreciated the most, but the order of the elements in the guideline has to be adapted to the most important needs of the end users. Derivatives of guidelines and tools to facilitate the effective application of EBP have to be developed and should accompany the guideline. Effective communication regarding new EBP products is essential. Dissemination and implementation, but also education and training have to be improved.

6 KCE GUIDELINES IN THE BELGIAN LANDSCAPE OF EVIDENCE-BASED PRACTICE

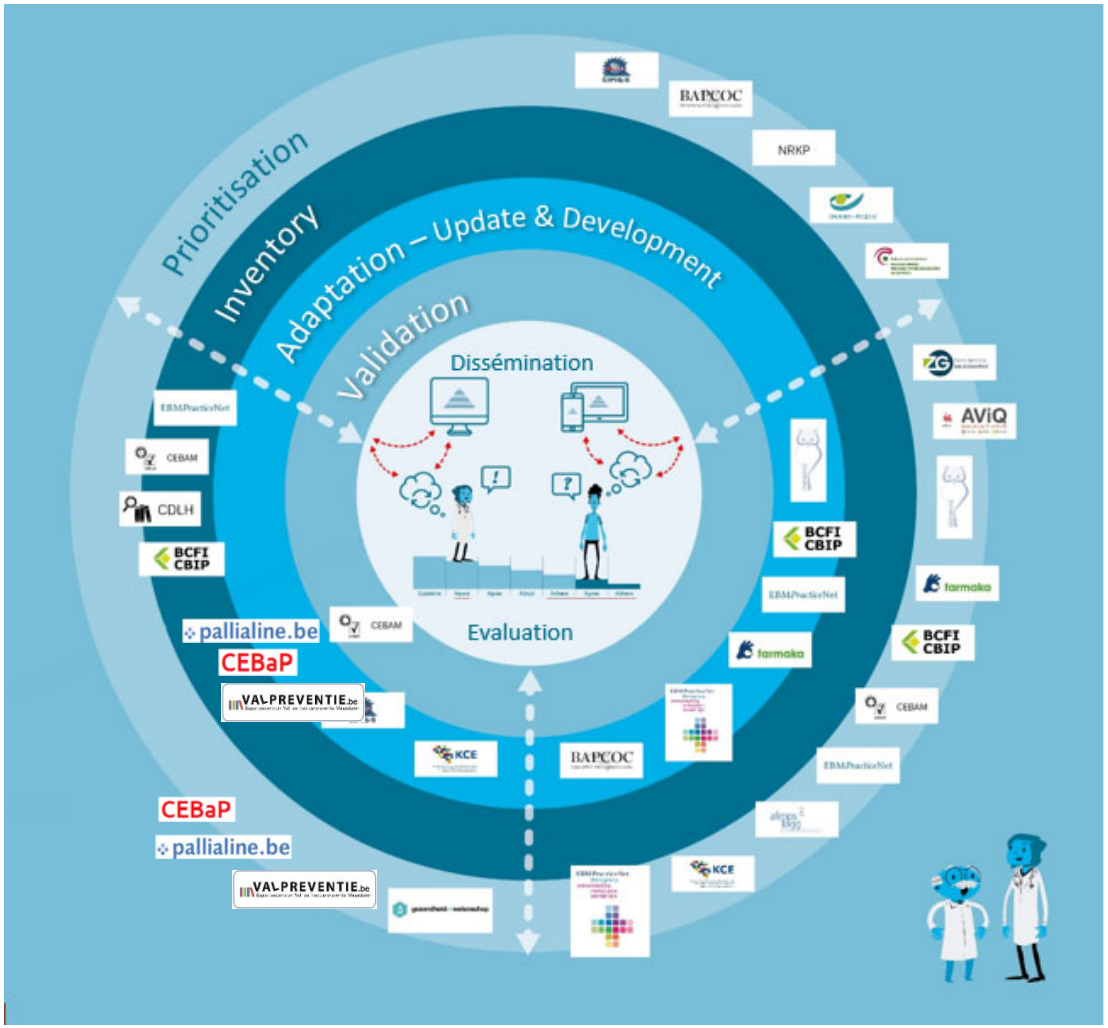
To date, development and dissemination of guidelines are spread over many organisations (see Figure 19). This fragmentation of the Belgian landscape of clinical practice guidelines leads to variability in guideline development and dissemination process[1]. The authors of KCE report 212 called for providing a unique platform for the dissemination of clinical practice guidelines among health professionals, developing clear messages supported by various formats, allocating a label for high-quality guidelines and adapting international guidelines to the Belgian context.

These conclusions were again highlighted by the professionals who participated in the above reported survey. There is today a coordination between developers of guidelines for the primary care setting (WG-richtlijnen). Furthermore EBMPracticeNet has been set up to centralise the dissemination of evidence in Belgium.

The federal authorities decided to launch a multi-year plan (EBP Plan) to close the gap between evidence and practice in order to enhance quality of care. The publication of this plan is foreseen in June 2017. KCE received the responsibility to draw up and to coordinate this plan that will gather all existing initiatives in a coherent governance strategy to provide:

1. One central easily accessible point of guideline dissemination for all health care professionals in a standardised format, with syntheses of evidence linked to the electronic patient records;
2. A strategy to enhance implementation of evidence to practice;
3. Evaluation tools in relation to implementation.

Figure 19 – Belgian landscape of clinical practice guideline



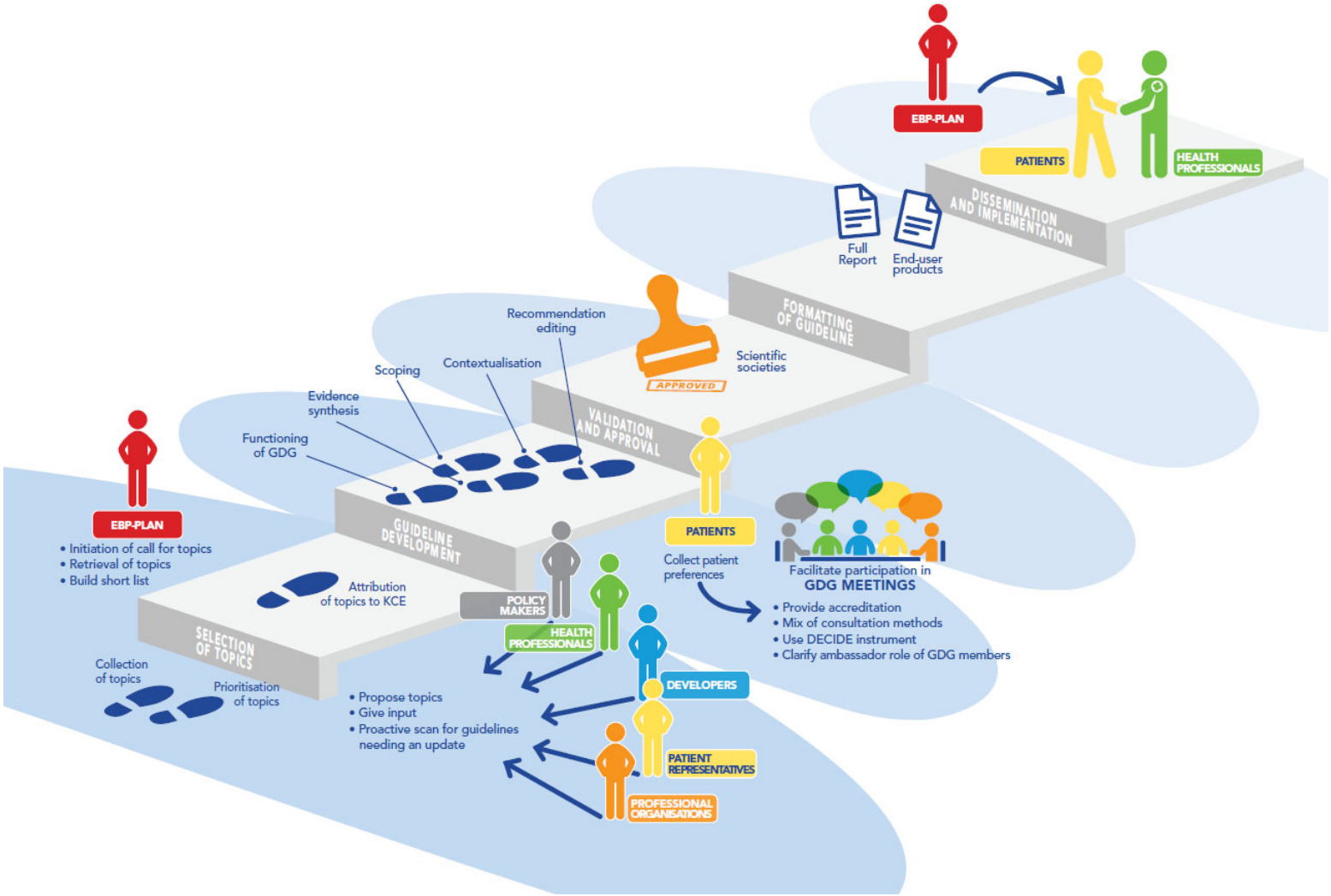
source: EBMPracticeNet, 2015

7 ADAPTATION OF THE KCE GUIDELINE DEVELOPMENT PROCESS TO REACH END-USERS EXPECTATIONS

Figure 20 shows an overview of the proposed adaptations for improvement of the KCE guideline development process. Each step of the guideline live cycle was studied from selection of topic to implementation in the health care field. Each actor involved at each step of guideline live cycle is identified by a colour code allowing to follow their involvement along the guideline development process. These adaptations are formulated based on literature findings, consultations of stakeholders, survey among health care professionals and discussions during an internal workshop.

The reader will find in the synthesis document the suggested adaptations to improve the content, the format and the dissemination of KCE guidelines to reach the healthcare professionals' needs and expectations.

Figure 20 – The KCE guideline development process: an overview of potential improvements



REFERENCES

1. Desomer A, Dilles T, Steckel S, Duchesnes C, Vanmeerbeek M, Peremans L, et al. Dissémination et mise en œuvre des guides de pratique clinique en Belgique - Synthèse. . Bruxelles : Centre Fédéral d'Expertise des Soins de Santé (KCE). : 2013. Health Services Research (HSR). Reports 212Bs. D/2013/10.273/87
2. KCE process book online [Web page].Brussels: Belgian Health Care Knowledge Center;2012 [updated 28/11/2016; cited 9/02/2017]. Available from: http://processbook.kce.fgov.be/
3. Sackett DL, Rosenberg WMC, Gray JAM, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. 1996. Clin Orthop Relat Res. 2007;455:3-5.
4. Haynes R, Devereaux P, Guyatt G. Clinical expertise in the era of evidence-based medicine and patient choice. Evidence-Based Medicine. 2002;7:3.
5. Bouffard M, Reid G. The good, the bad, and the ugly of evidence-based practice. Adapt Phys Activ Q. 2012;29(1):1-24.
6. Boxwala AA, Rocha BH, Maviglia S, Kashyap V, Meltzer S, Kim J, et al. A multi-layered framework for disseminating knowledge for computer-based decision support. Journal of the American Medical Informatics Association. 2011;18(SUPPL. 1):132-9.
7. Eccles MP, Grimshaw JM, Shekelle P, Schunemann HJ, Woolf S. Developing clinical practice guidelines: target audiences, identifying topics for guidelines, guideline group composition and functioning and conflicts of interest. Implementation Science. 2012;7(60).
8. Agoritsas T, Fog-Heen A, Brandt L, alonso-Coello P, Kristiansen A, akl EA, et al. Decision aids that really promote shared decision making: the pace quickens. BMJ Open. 2015;350:5.
9. Greenhalgh T, Howick J, Maskrey N, Evidence Based Medicine Renaissance G, Brassey J, Burch D, et al. Evidence based medicine: a movement in crisis? BMJ. 2014;348:g3725.
10. project DH-R. Knowledge base guideline development: Tool for guidelines and shared decision making in practice [Web page].2013 [cited 2016 February 29]. Available from: http://www.ha-

ring.nl/download/pages/en/Tool%20for%20guidelines%20and%20shared%20decision%20making%20in%20practice.pdf

11. Brown B, Patel C, McInnes E, Mays N, Young J, Haines M. The effectiveness of clinical networks in improving quality of care and patient outcomes: a systematic review of quantitative and qualitative studies. BMC Health Services research. 2016;16:360.
12. Narayanaswami P, Gronseth G, Dubinsky R, Penfold-Murray R, Cox J, Bever C, Jr., et al. The Impact of Social Media on Dissemination and Implementation of Clinical Practice Guidelines: A Longitudinal Observational Study. J Med Internet Res. 2015;17(8):e193.
13. Cheng J, Gagliardi A, Brouwers M, Bhattacharyya O. Identifying, describing and evaluating guideline implementability tools. BMJ Quality and Safety. 2013;22((Cheng J.; Gagliardi A.) University Health Ne, Hamilton, Canada):A32-A3.
14. Elwyn G, Quinlan C, Mulley A, Agoritsas T, Vandvik PO, Guyatt G. Trustworthy guidelines - excellent; customized care tools - even better. BMC Medicine. 2015;13(199).
15. Vandvik PO, Brandt L, Alonso-Coello P, Treweek S, Akl EA, Kristiansen A, et al. Creating clinical practice guidelines we can trust, use, and share: a new era is imminent. Chest. 2013;144(2):381-9.
16. Fretheim A, Schunemann HJ, Oxman AD. Improving the use of research evidence in guideline development: 3. Group composition and consultation process. Health Res Policy Syst. 2006;4:15.
17. Fretheim A, Schunemann HJ, Oxman AD. Improving the use of research evidence in guideline development: 15. Disseminating and implementing guidelines. Health Res Policy Syst. 2006;4:27.
18. Fretheim A, Schunemann HJ, Oxman AD. Improving the use of research evidence in guideline development: 5. Group processes. Health Res Policy Syst. 2006;4:17.
19. Oxman AD, Schunemann HJ, Fretheim A. Improving the use of research evidence in guideline development: 2. Priority setting. Health Res Policy Syst. 2006;4:14.
20. Oxman AD, Fretheim A, Schunemann HJ, Sure. Improving the use of research evidence in guideline development: introduction. Health Res Policy Syst. 2006;4:12.
21. Oxman AD, Schunemann HJ, Fretheim A. Improving the use of research evidence in guideline development: 16. Evaluation. Health Res Policy Syst. 2006;4:28.
22. Oxman AD, Schunemann HJ, Fretheim A. Improving the use of research evidence in guideline development: 14. Reporting guidelines. Health Res Policy Syst. 2006;4:26.
23. Oxman AD, Schunemann HJ, Fretheim A. Improving the use of research evidence in guideline development: 12. Incorporating considerations of equity. Health Res Policy Syst. 2006;4:24.
24. Oxman AD, Schunemann HJ, Fretheim A. Improving the use of research evidence in guideline development: 8. Synthesis and presentation of evidence. Health Res Policy Syst. 2006;4:20.
25. Oxman AD, Schunemann HJ, Fretheim A. Improving the use of research evidence in guideline development: 7. Deciding what evidence to include. Health Res Policy Syst. 2006;4:19.
26. Schunemann HJ, Fretheim A, Oxman AD, Research WHOACoH. Improving the use of research evidence in guideline development: 1. Guidelines for guidelines. Health Res Policy Syst. 2006;4:13.
27. Schunemann HJ, Fretheim A, Oxman AD. Improving the use of research evidence in guideline development: 13. Applicability, transferability and adaptation. Health Res Policy Syst. 2006;4:25.
28. Schunemann HJ, Fretheim A, Oxman AD. Improving the use of research evidence in guideline development: 10. Integrating values and consumer involvement. Health Res Policy Syst. 2006;4:22.
29. Schunemann HJ, Fretheim A, Oxman AD. Improving the use of research evidence in guideline development: 9. Grading evidence and recommendations. Health Res Policy Syst. 2006;4:21.
30. Schunemann HJ, Oxman AD, Fretheim A. Improving the use of research evidence in guideline development: 6. Determining which outcomes are important. Health Res Policy Syst. 2006;4:18.

31. Boyd EA, Bero LA. Improving the use of research evidence in guideline development: 4. Managing conflicts of interests. Health Res Policy Syst. 2006;4:16.
32. Edejer TT-T. Improving the use of research evidence in guideline development: 11. Incorporating considerations of cost-effectiveness, affordability and resource implications. Health Res Policy Syst. 2006;4:23.
33. Parchman M. Diffusion, Dissemination and Implementation: What is the Difference? [Web page].2015 [cited December 15]. Available from: https://www.nihcollaboratory.org/Pages/GR-Slides-10-09-15.pdf
34. Grimshaw JM, Thomas RE, MacLennan G, Fraser C, Ramsay CR, Vale L. Effectiveness and efficiency of guideline dissemination and implementation strategies. Health Technol Assess. 2004;8(6):iii-iv, 1-72.
35. Robbins C. guideline implementation: an overview. Amsterdam: 12th GIN congress; 2015.
36. Murthy L, Shepperd S, Clarke MJ, Garner SE, Lavis JN, Perrier L, et al. Interventions to improve the use of systematic reviews in decision-making by health system managers, policy makers and clinicians. Cochrane Database of Systematic Reviews. 2012;CD009401.pub2.
37. Kastner M, Bhattacharyya O, Hayden L, Makarski J, Estey E, Durocher L, et al. Guideline uptake is influenced by six implementability domains for creating and communicating guidelines: a realist review. J Clin Epidemiol. 2015;68(5):498-509.
38. NICE. Measuring the uptake of nice guidance [Web page].2015 [cited March 27]. Available from: https://www.nice.org.uk/about/what-we-do/into-practice/measuring-the-uptake-of-nice-guidance
39. Chan CKY, Oldenburg B, Viswanath K. Advancing the Science of Dissemination and Implementation in Behavioral Medicine: Evidence and Progress Int. j. behav. med. 2015;22:6.
40. Kashyap M, dixon J, Michel G, Brandt C, Shiffman R. Guideline implementability appraisal v. 2.0 [Web page].New-Haven: Yale Center for Medical Informatics;2011 [cited February 29]. Available from: http://nutmeg.med.yale.edu/glia/doc/GLIA_v2.pdf
41. (CIHR) CIoHR. Knowledge Translation - definition [Web page]. CIHR;2013 [cited March 31]. Available from: http://www.cihr-irsc.gc.ca/e/29418.html
42. Straus SE, Tetroe J, Graham ID. Knowledge Translation in Health Care: Moving from Evidence to Practice Ltd. BP, editor.; 2009
43. Graham ID, Logan J, Harrison MB, Strauss S, J T, Caswell W, et al. Lost in knowledge translation: time for a map? J Contin Educ Health Prof 2006;26(13-24).
44. Shiffman RN, Dixon J, Brandt C, Essaihi A, Hsiao A, Michel G, et al. The GuideLine Implementability Appraisal (GLIA): Development of an instrument to identify obstacles to guideline implementation. BMC Medical Informatics and Decision Making. 2005;5((Shiffman R.N., richard.shiffman@yale.edu; Brandt C., cynthia.brandt@yale.edu; Essaihi A., abdel.essaihi@yale.edu; Hsiao A., allen.hsiao@yale.edu; Michel G., george.michel@yale.edu; O'Connell R., ryan@oconnell.org) Yale Center for Medical Informatics, Yale University, School of Medicine, New Haven, CT, United States).
45. Morville P. User experience design [Web page]. Semantic Studios;2004 [cited February 22]. Available from: http://www.semanticstudios.com/publications/semantics/000029.php
46. Rosembaum SE, Glenton C, Cracknell J. User experiences of evidence-beased online resources for health professionals. BMC Medical Informatics & Decision Making. 2008;8:11.
47. Glasziou P, Haynes B. The paths from research to improved health outcomes. Evid Based Nurs. 2005;8(2):36-8.
48. Brouwers MC, Bhattacharyya O. GUIDE-M - Guideline Implementability for Decision Excellence Model [Web page]. GUIDE-M research team;2014 [cited March 01]. Available from: http://guide-m.ca/
49. Brouwers MC, Makarski J, Kastner M, Hayden L, Bhattacharyya O, Team G-MR. The Guideline Implementability Decision Excellence

Model (GUIDE-M): a mixed methods approach to create an international resource to advance the practice guideline field. Implementation Science. 2015;10(36).

50. group G-M. The GUIDE-M website [Web page].2015 [cited March 27]. Available from: http://guide-m.ca/
51. Chan W, Pearson T. Guideline implementability appraisal (GLIA) in us national guidelines. BMJ Quality and Safety. 2013;22((Chan W.) Kaiser Permanente, Northwest, Portland, United States):A31-A2.
52. Gagliardi AR, Brouwers MC, Bhattacharyya OK. The guideline implementability research and application network (GIRAnet): an international collaborative to support knowledge exchange: study protocol. Implementation Science. 2012;7(26).
53. Kastner M, Estey E, Hayden L, Chatterjee A, Grudniewicz A, Graham ID, et al. The development of a guideline implementability tool (GUIDE-IT): a qualitative study of family physician perspectives. BMC Family Practice. 2014;15(19).
54. Kastner M, Versloot J, Hayden L, Chatterjee A, Bhattacharyya O. Enhancing the uptake of clinical practice guidelines: The development of a guideline implementability tool (GUIDE-IT). BMJ Quality and Safety. 2013;22((Kastner M.; Versloot J.; Hayden L.; Chatterjee A.; Bhattacharyya O.) Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, Canada):A32.
55. workgroup G-M-. GUIDE-M -- Guideline implementability for decision excellence model [Web page].Canada: McMaster University;2014 [cited March 10]. Available from: http://guide-m.ca/
56. Sahota IS, Kostaras X, Hagen NA. Improving access to cancer guidelines: feedback from health care professionals. Curr. oncol. 2015;22(6):392-8.
57. Gagliardi AR, Brouwers MC, Palda VA, Lemieux-Charles L, Grimshaw JM. How can we improve guideline use? A conceptual framework of implementability. Implementation Science. 2011;6(26).
58. Gagliardi AR, Brouwers MC. Do guidelines offer implementation advice to target users? A systematic review of guideline applicability. BMJ Open. 2015;5(2):e007047.
59. Hilbink MA, Ouwens MM, Burgers JS, Kool RB. A new impetus for guideline development and implementation: construction and evaluation of a toolbox. Implement Sci. 2014;9(1):34.
60. EBMPracticeNet. Vision Statement 2016 - 2020. EBMPracticeNet; 2015. Available from: www.ebmpracticenet.be/SiteAssets/ebmpracticenet-about/visietekst-en.pdf
61. Levac D, Glegg SM, Camden C, Rivard LM, Missiuna C. Best practice recommendations for the development, implementation, and evaluation of online knowledge translation resources in rehabilitation. Phys Ther. 2015;95(4):648-62.
62. Shekelle P, Woolf S, Grimshaw JM, Schunemann HJ, Eccles MP. Developing clinical practice guidelines: reviewing, reporting, and publishing guidelines; updating guidelines; and the emerging issues of enhancing guideline implementability and accounting for comorbid conditions in guideline development. Implementation Science. 2012;7(62).
63. Brouwers EP, Garcia K, Makarski J, Daraz L. The landscape of knowledge translation interventions in cancer control: What do we know and where to next? A review of systematic reviews. Implementation Science. 2011;6.
64. Stacey D, Legare F, Col N, Bennet CL, Barry MJ, Eden KB. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews. 2014;CD001431.
65. Guyatt G, Vandvik PO. Creating clinical practice guidelines: problems and solutions. Chest. 2013;144(2):365-7.
66. Montori VM, Gafni A, Charles C. A shared treatment decision-making approach between patients with chronic conditions and their clinicians: the case of diabetes. Health Expectations. 2006;9:12.
67. Clinic M. Mayo Clinic Shared Decision Making National Resource Center [Web page]. [cited April 1]. Available from: http://shareddecisions.mayoclinic.org/
68. GDT G. GRADE's software for Summary of Findings: tables, Health Technology Assessment and Guidelines [Web page]. [cited April 1]. Available from: http://gradepro.org/

69. grid o. Health decisions made easier [Web page].2015 [cited April 1]. Available from: http://optiongrid.org/
70. Elwyn G, Lloyd A, Joseph-Williams N, Cording E, Thomson R, Durand MA, et al. Option grids: shared decision making made easier. Patient education and counseling. 2013;90:6.
71. group. M. Creating trustworthy guidelines, evidence summaries and decision aids that we can all use and share [Web page].2015 [cited April 1]. Available from: http://www.magicproject.org
72. MAGIC-group. Magic-app: Improving patient care through guidelines, evidence summaries and decision aids that we can all trust, use and share [Web page].2015 [cited April 1]. Available from: https://www.magicapp.org/
73. MAGIC-group. SHARE-IT: Decision Aids linked to GRADE Guidelines to improve Shared-Decision Making in the Clinical Encounter [Web page].2015 [cited April 1]. Available from: http://magicproject.org/share-it
74. Francke AL, Smit MC, De Veer AJ, Mistiaen P. Factors influencing the implementation of clinical guidelines for health professionals: a systematic review. BMC Medical Informatics & Decision Making. 2008;8(38).
75. CEBAM. Gezondheid en Wetenschap [Web page]. CEBAM;2016 [cited March 10]. Available from: www.gezondheidenwetenschap.be/richtlijnen
76. Baker R, Camosso-Stefinovic J, Gillies C, Shaw E, Cheater F, Flottorp S, et al. Tailored interventions to address determinants of practice. Cochrane Database of Systematic Reviews. 2015;CD005470.pub3.
77. BridgeWiz. Available Versions of BridgeWiz [Web page]. Yale University;2011 [cited April 1]. Available from: http://gem.med.yale.edu/BRIDGE-Wiz/
78. Graham RL, Mancher M, Miller Wolman D, Greenfield S, Steinberg E. Clinical Practice Guidelines We Can Trust. Washington: Institute of Medicine; 2011. Available from: http://www.ncbi.nlm.nih.gov/books/NBK209539/
79. Rogers E. Diffusion of Innovations (3rd ed.). New-York: Free Press of Glencoe; 1983.
80. CEBAM. Gezondheid en wetenschap [Web page].2016 [cited April 1]. Available from: http://www.gezondheidenwetenschap.be/
81. SIGN. Scottish Intercollegiate Guidelines Network. SIGN 50: A guideline developer's handbook. Edinburgh: Scottish Intercollegiate Guidelines Network; 2011.
82. Peleg M. Computer-interpretable clinical guidelines: a methodological review. J Biomed Inform. 2013;46(4):744-63.
83. Hayden LG, Chatterjee A, Kastner M, Bhattacharyya OK. Improving guidelines: Using science to improve the design and effectiveness of flowcharts. Canadian Journal of Diabetes. 2012;36(5):S40.
84. Dolan JG, Qian F, Veazie PJ. How well do commonly used data presentation formats support comparative effectiveness evaluations? Medical Decision Making. 2012;32(6):11.
85. Start D, Hovland I. SWOT Analysis, Tools for Policy Impact: A Handbook for Researchers. Overseas Development Institute; 2004.
86. NICE. Developing NICE guidelines: the manual. National Institute for Health and Care Excellence; 2014. Process and methods guides Available from: https://www.nice.org.uk/media/default/about/what-we-do/our-programmes/developing-nice-guidelines-the-manual.pdf
87. Robays J, Vlayen J, Jonckheer P, Verleye L. KCE PRocess Book [Web page].2012. Available from: http://processbook.kce.fgov.be/
88. SIGN. A guideline developer's handbook Scottish Intercollegiate Guidelines Network (SIGN); 2015. Available from: http://www.sign.ac.uk/pdf/sign50.pdf
89. (AHRQ AfHRaQ. Communication and Dissemination Strategies To Facilitate the Use of Health and Health Care Evidence [Web page].2012 [cited June 2]. Available from: https://effectivehealthcare.ahrq.gov/ehc/products/433/1208/CommunicationDissemination_ResearchProtocol_20120731.pdf
90. Hannes K, Goedhuys J, Aertgeerts B. Obstacles to implementing evidence-based practice in Belgium: a context-specific qualitative

evidence synthesis including findings from different health care disciplines. Acta Clin Belg. 2012 67(2):99-107.

91. White KM, Dudley-Brown S, Terhaar MF. Translation of evidence into nursing and health care. Springer Publishing, editor. New-York; 2016.

92. Heselmans A, Donceel P, Aertgeerts B, Van de Velde S, Ramaekers D. The attitude of Belgian social insurance physicians towards evidence-based practice and clinical practice guidelines. BMC Fam Pract. 2009;10:64.

93. Gilet P, Vander Stichele B, Adriaenssens J, Jacqmin N, Erpicum M, Gillain N, et al. Project EBNursing. Brussel: FOD Volksgezondheid/SPF Santé Publique; 2016.

94. Vanneste M. Use of CEBAM Digital Library For Health (CDLH) by Belgian health care professionals. In: CEBAM, editor. Leuven; 2016.

APPENDICES

APPENDIX 1. SEARCH STRATEGY & RESULTS

Appendix 1.1. Potential search terms

implementation (science)

guidelines

clinical guidelines

practice guidelines

Recommendations

translational medical research

knowledge (exchange)

optimiz*

enhance

better

improv*

accept*

access*

adher*

usage

utilization

utility

compliance

comply

attitude

follow*

percep*

uptake

use

decision support*

decision making

resource,

software

format

content

system

“Translational Medical Research”[Mesh]

“Guidelines”[Mesh]

“Software”[Mesh]

“Decision Support Systems, Clinical”[Mesh]

“Decision support techniques”[Mesh]

“Decision Making”[Mesh]

Appendix 1.2. Literature search Medline OVID 01.03.2016 14.00u

1 exp Translational Medical Research/ (7257)

2 (implementation adj3 science?).ab,ti,kw. (515)

3 (translat* adj3 (research or science? or knowledge)).ab,ti,kw. (12346)

4 (knowledge adj3 exchang*).ab,ti,kw. (720)

5 1 or 2 or 3 or 4 (17840)

6 guidelines.ti. (45056)

7 recommendations.ti. (23860)

8 exp guidelines as topic/ (131997)

9 6 or 7 or 8 (169818)

10 5 and 9 (773)

11 limit 10 to yr="2011 -Current" (468)

12 limit 11 to systematic reviews (87)

13 exp *Translational Medical Research/ (4126)

14 ((implementation adj3 science?) or (translat* adj3 (research or science? or knowledge)) or (knowledge adj3 exchang*)).ti,kw. (3726)

15 13 or 14 (6371)

16 exp *guidelines as topic/ (43104)

17 6 or 7 or 16 (92208)

18 15 and 17 (153)

19 limit 18 to yr="2011 -Current" (102)

20 12 or 19 (171)

21 (guideline? adj3 implement*).ti,kw. (1042)

22 ("clinical guidelines" adj3 implement*).ti,kw. (93)

23 ("clinical practice guidelines" adj3 implement*).ti,kw. (89)

24 21 or 22 or 23 (1118)

25 implementation science.jn. (806)

26 17 and 25 (91)

27 24 or 26 (1187)

28 limit 27 to yr="2011 -Current" (418)

29 optimiz*.ti. (34336)

30 enhance.ti. (15584)

31 better.ti. (26019)

32 improv*.ti. (186586)

33 29 or 30 or 31 or 32 (260564)

34 9 and 33 (5371)

35 (accept* or access* or adher* or usage or utilization or utility or compliance or comply or attitude or follow* or percep* or uptake).ti. (604535)

36 "use".ti. (390292)

37 35 or 36 (983813)

38 34 and 37 (811)

39 limit 38 to yr="2011 -Current" (350)

40 (tool? or method? or "decision support" or "decision supporting" or "decision making" or factor? or resource? or software or format or content?).ti. (1057602)

41 exp Software/ (127293)

42 decision support system, clinical/ (0)

43 Decision Support Systems, Clinical/ (5850)

44 exp decision support techniques/ (67680)

45 exp Decision Making/ (161757)

46 "decision making".ti. (16181)

47 40 or 41 or 42 or 43 or 44 or 45 or 46 (1364915)

48 9 and 47 (13840)

49 exp *Software/ or *Decision Support Systems, Clinical/ or exp *decision support techniques/ or exp *Decision Making/ (155278)

50 40 or 46 or 49 (1182811)

51 17 and 50 (4321)

52 limit 51 to yr="2011 -Current" (1552)

53 (tool? or method? or "decision support" or "decision supporting" or software or format or content?).ti. (468172)

54 46 or 49 or 53 (611720)

55 17 and 54 (3334)

56 limit 55 to yr="2011 -Current" (1215)

57 limit 56 to systematic reviews (181)

58 12 or 19 or 28 or 39 or 57 (1086)

59 remove duplicates from 58 (1001)

60 11 and 33 (41)

61 11 and 37 (39)

62 11 and 54 (31)

63 17 and 33 and 54 (174)

64 27 and 33 (84)

65 27 and 54 (77)

66 60 or 61 or 62 or 63 or 64 or 65 (411)

67 limit 66 to yr="2011 -Current" (216)

68 59 or 67 (1113)

69 remove duplicates from 68 (1106)

70 limit 69 to ed="20110101-20160301" (975)

APPENDIX 2. INTERNATIONAL SURVEY

Guideline-implementation

Dear Participant,

The Belgian Health Care Knowledge Centre (KCE) is an independent scientific institute that advises policy makers about decisions relating to health care and health insurance.

Among other research domains, KCE supports care providers by developing clinical practice guidelines (more information on https://kce.fgov.be/).

In this regard, KCE has initiated a reflection process on the implementability of its guidelines. Implementability refers to guideline characteristics that promote its use by target end-users.[1]

In addition to a literature review, KCE will conduct a survey among guideline development organisations in order to gain insight in effective strategies to enhance implementability. We would like to invite you to participate in this survey. If you believe that you are not the right person to complete this survey, please forward it to the appropriate person within your organisation.

Thank you in advance for your input.

Raf Mertens, General Manager

Joan Vlayen, Expert physician KCE, Trustee Guidelines International Network (GIN)

[1] Brouwers MC et al. The Guideline Implementability Decision Excellence Model (GUIDE-M): a mixed methods approach to create an international resource to advance the practice guideline field. Implementation Science. 2015; 10:3

Technical information:

Data are collected by means of an electronic survey (Limesurvey).

Our system allows to interrupt the survey at the end of each step. At that point, you can click on 'resume later' and leave the survey.

All your answers will be saved and you can go on with the survey at the point where you stopped.

In case of technical problems, please feel free to contact us (nadia.benahmed@kce.fgov.be).

The survey will take approximately 30 minutes to complete.

The survey will be definitively closed at 8 May 2016 (23:55 CET time)

[1] Brouwers MC et al. The Guideline Implementability Decision Excellence Model (GUIDE-M): a mixed methods approach to create an international resource to advance the practice guideline field. Implementation Science. 2015; 10:3

GENERAL INFORMATION

Name of your organization:

_____

_____

Contact e-mail:

_____

_____

Country:

_____

_____

Number of guidelines produced in 2015 in your organization:

_____

Which health professionals are primary target users of guidelines developed by your institution? Multiple answers are possible

Please choose all that apply:

General Practitioners

Specialists

Nurses

Midwives

Physiotherapists

Dentists

Pharmacists

Other:

Which medical specialists are targeted?

Please choose all that apply:

Clinical biologists

Cardiologists

Dermatologists

Emergency doctors

Geriatricians

Gynaecologists

Intensive care specialists

Nephrologists

Oncologists

Ophthalmologists

Paediatricians

Pathologists

Psychiatrists

Radiologists

Surgeons

Urologists

Other: TOPIC SELECTION FOR DEVELOPMENT OF NEW GUIDELINES

The topic of guideline is the disease or health condition that will be discussed in the guideline. This topic will form the basis to develop clinical questions based on one or several PICOs during the scoping phase of the guideline development. For example, the topic of a guideline can be 'renal cancer in adults' and the scope can be limited to 'diagnosis and treatment'. In our example, 'prevention and follow-up' are out-of-scope.*

**Population, Intervention(s), Comparator(s) and Outcome(s)*

How is a topic for guideline development selected in your organisation? (Multiple answers are possible)

☐ Based on a predefined (mandatory) list

☐ Based on a public call

☐ Based on topics freely submitted

☐ Other:

Who draws up the predefined (mandatory) list? (Multiple answers are possible)

☐ Your organization

☐ Policy makers / government(s)

☐ Scientific society

☐ Other:

Who can submit a topic? (Multiple answers are possible)

☐ Individual patients

☐ Individual health professionals

- ☐ Schools/ Universities
- ☐ Scientific societies
- ☐ Professional organisations
- ☐ Patient organisations
- ☐ Quality of care organisations
- ☐ Policy makers/ governments
- ☐ Public funding organisations
- ☐ Private commercial firms (e.g. pharmaceutical firms, manufacturers of medical material …)
- ☐ Other: **How is a call for topics organised? (Multiple answers are possible)**
- ☐ Public call in paper version (journal, newspaper …) or related online version
- ☐ Public call by mail to individual practitioners
- ☐ Public call by mail to organisations
- ☐ Public call via information on the website of your organisation
- ☐ Public call via social media (e.g. Facebook, Twitter, …)
- ☐ Freely without a formal public call
- ☐ Other**Please explain how proposals for topics for guidelines are collected**

How can topics for guidelines be submitted? (Multiple answers are possible)

- ☐ Via an online form
- ☐ Via a specific form, to be send by mail or post
- ☐ Other:

What information must be included in the submission form? (Multiple answers are possible)

- ☐ PICO(s) / clinical question(s)
- ☐ Reasons for guideline development (de novo, update
- ☐ Resources needed for guideline development
- ☐ Other:

* *PICO: Population Intervention Comparison Outcome(s)*

Do you have a formal procedure (predefined list of criteria) for selection of topics?

- ☐ Yes
- ☐ No

What are the criteria to select a topic for guideline development?

- ☐ Number of patients (e.g. prevalence, extent of the problem)
- ☐ Severity of illness
- ☐ Room for improvement in current practice
- ☐ Feasibility
- ☐ Emergence of new evidence
- ☐ Unavailability of a national guideline
- ☐ Other:

Who is in charge of topic selection for guideline development? (Multiple answers are possible)

Please choose **all** that apply:

- ☐ Your organisation itself
- ☐ Scientific committee composed of external experts
- ☐ Guideline development group

☐ Stakeholders

☐ Health authorities representatives

☐ Other:

How is this selection committee composed in terms of skills, number of persons?

Please specify if external experts are chosen nationally, internationally or both.

Does your organisation check if the selected topics meet the needs of end users?

☐ Yes

Please, explain the process and give an example

☐ No

UPDATING OF GUIDELINES

Is there a procedure to monitor the need for updating the guideline?

☐ Yes

Please, explain

☐

☐ No

What are the criteria to decide upon the update of a guideline? (Multiple answers are possible)

☐ The guideline is outdated

☐ New evidence is published

☐ New intervention(s) come(s) into the market

☐ Other:

After how many years is a guideline considered to be outdated?

How is new evidence being tracked after the publication of a guideline?

How are new interventions being tracked after the publication of a guideline?

FUNDING OF GUIDELINE DEVELOPMENT

How is the development of guidelines funded? (Multiple answers are possible)

☐ Public funding only

☐ Private and non-commercial funding

Please specify the type(s) of private and non-commercial funding (e.g. philanthropy, charity …)

☐ Private and commercial funding

Which types of commercial organisations finance guideline development in your organisation? (Pharmaceutical firms, manufacturers of medical devices…)

☐ Other:

SCOPING OF GUIDELINES

The scope of a guideline determines the clinical questions that will be aswered in the guideline.

Who defines the final scope of the guideline? (Multiple answers are possible)

☐ Your organisation

☐ Scientific committee

☐ Guideline Development Group

☐ Stakeholders group

☐ Health authorities representatives

☐ Other:

For scoping purposes, who is involved in terms of skills and number of persons?

Is the scientific committee belong to your organisation or is composed of external experts? Please specify if external experts are chosen nationally, internationally or both

Does your organisation check if the scope meets the need of end-users?

☐ Yes

Please, explain the process

Please, could you give an example?

☐ No

INVOLVEMENT IN CONTENT DEVELOPMENT

For the development of a clinical guideline, is a specific Guideline Development Group involved to support your team?

☐ Yes

☐ No

Who are involved in Guideline Development Group?

☐ Health professionals

☐ Individual patients, family members pr patients representatives

☐ Decision-makers

☐ Knowledge synthesis and guideline experts

☐ Health economics expert

☐ Ethicists

☐ Implementation experts

☐ Other:

During the process of the guideline development, does your organisation meet with a Stakeholder Group?

☐ Yes

☐ No

Who are involved in Stakeholders Group?

☐ Health professionals

☐ Individual patients, family members or patients representatives

☐ Decision-makers

☐ Other:

OUTPUT FORMAT

Which type(s) of products for guideline is (are) developed by your organisation? (Multiple answers are possible)

☐ Full guidelines or comprehensive guideline ,recommendations regarding all aspects of the topic (e.g. surveillance, diagnosis, clinical interventions and follow-up)]

☐ Standard guidelines or guidance ,recommendation(s) focused on a single clinical question]

☐ Adaptations of guidelines ,adaptation of recommendations from recent and high quality evidence based guidelines into the local context]

☐ Compilations of guidelines ,summary of several guidelines without update]

☐ Rapid advice guidelines ,recommendations without reporting of evidence, e.g. up-to-date, BestBETs or other point-of-care solutions]

☐ Clinical decision tree

☐ Decision aids (online as well as other media) to support shared decision making

☐ Graphical support for health professionals (graphs, tables, figures)

☐ Graphical support for patients (low threshold graphs, tables, figures)

☐ Patient leaflets (easily approachable, low threshold patient versions of recommendations)Other:

According to NICE, 'Clinical guidelines recommend how healthcare professionals should care for people with specific conditions. They can cover any aspect of a condition and may include recommendations about providing information and advice, prevention, diagnosis, treatment and longer-term management... a guidance may focus on a particular topic..., a particular population ...or a particular setting ...' https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-guidelines/types-of-guideline

When a guideline is adapted to local context, does your organisation use the ADAPTE framework?

☐ Yes

☐ No

ADAPTE process consists of three main phases (Set-up, Adaptation, Finalization) aiming to provide a systematic approach to adapting guidelines produced in one setting for use in a different cultural and organization context.

More information: the ADAPTE Collaboration (2009). The ADAPTE Process: Resource Toolkit for Guideline Adaptation. Version 2.0. Available from: http://www.g-i-n.net

Please specify the three most frequently used products?

☐ Full guidelines or guideline ,recommendations regarding all aspects of the topic (e.g. surveillance, diagnosis, clinical interventions and follow-up)]

☐ Standard guidelines or guidance ,recommendation(s) focused on a single clinical question]

☐ Adaptations of guidelines ,adaptation of recommendations from recent and high quality evidence based guidelines into the local context following ADAPTE procedure]

☐ Compilations of guidelines ,summary of several guidelines without update]

☐ Rapid advice guidelines ,recommendations without reporting of evidence, e.g. up-to-date, BestBETs or other point-of-care solutions]

☐ Clinical decision tree

What approach do you use to develop a clinical decision tree? Please explain the process and the skills of the team involved in the process

☐ Decision aids (online as well as other media) to support shared decision making

What approach do you use to develop a decision aid? Please explain the process and the skills of the team involved in the process

☐ Graphical support for health professionals (graphs, tables, figures)

What approach do you use to develop a graphical support for health professional? Please explain the process and the skills of the team involved in the process?

☐ Graphical support for patients (low threshold graphs, tables, figures)

What approach do you use to develop a graphical support for patients? Please explain the process and the skills of the team involved in the process?

☐ Patient leaflets (easily approachable, low threshold patient versions of recommendations)

What approach do you use to develop patient leaflets? Please explain the process and the skills of the team involved in the process

☐ Other:

What approach do you use to develop another format of guidelines that you previously mentioned? Please explain the process and the skills of the team involved in the process?

What is the rationale behind this choice?

Does your organisation check if the final format of the guidelines meet the end-users' needs?

☐ Yes

Please, explain the process and give an example (readability, comprehension…)

☐ No

REPORTING CONTENT

Does your organisation have instructions about the use of standard formulation for recommendations?

Does your organisation check if the recommendation is understandable by end-users?

☐ Yes

Please, explain the process

Could you please give an example?

☐ No

Does your organisation check applicability of a recommendation by end-users?

☐ Yes

Please, explain the process

Could you please give an example?

☐ No

Does your organisation assess the resources needed to apply a recommendation by end-users?

☐ Yes

Please, explain the process

Could you please give an example?

☐ No

How is evidence supporting a recommendation reported? (Multiple answers are possible)

☐ Narrative text

☐ Formatted text ,use of standard formulations]

☐ Table of evidence based on formatted data extraction sheet

☐ Other:

Does your organisation check if the reporting format meets the end-users' needs?

☐ Yes

Please, explain the process

Could you please give an example?

☐ No

Is the strength of recommendation reported with the recommendation itself?

☐ Yes

☐ No

Is the level of evidence reported with the recommendation itself?

☐ Yes

☐ No

Does your organisation check if the final content of the guidelines meets the end-users' needs?

☐ Yes

Please, explain the process (readability, comprehension…)

Could you please give an example?

☐ No

COMMUNICATION CONTENT

Does your organisation have a communication specialist who checks the language of recommendations (simplicity, clarity, and persuasive language)?

☐ Yes

Please, specify

☐ No

Does your organisation have staff or an external department dedicated to the communication of guideline to health professionals?

☐ Yes

Please, specify

Please specify the number of persons and skills involved

☐ No

Does your organisation have a specific plan for communication of guidelines to health professionals?

☐ Yes

Please specify the content of the plan.

Is the strategy the same for each target user?

☐ No

Does your organisation have staff or an external department dedicated to communication with patients?

☐ Yes

Please specify number of persons and skills involved

☐ No

Does your organisation have a specific plan for communication of guidelines with patients?

☐ Yes

Please specify the content of the plan.

Is the strategy the same for each disease or patient group?

☐ No

Which media are chosen to communicate about guidelines? (Multiple answers are possible)

☐ Paper format published in a scientific journal or related online version

☐ Paper format in professional publication or related online version

☐ Paper format in commercial publication

☐ Posters

☐ Flyers & booklets

☐ Book including evidence and recommendations

☐ Full report (evidence and recommendations) attached to e-mail (PDF or hyperlink)

☐ Report (including only recommendations) attached to e-mail (PDF or hyperlink)

☐ Publication on dedicated website

☐ Publication on dedicated website with interactive links allowing to move in the sections of the document

☐ Publication on dedicated website including clinical decision tree

☐ Publication on dedicated website including decision aids to facilitate shared decision

☐ Provision of tagging to a specific coding system (ICD-9/10, ICPC, NANDA, SNOMED-CT, …) to make recommendations available in EHRs of practitioners (evidence linker, alerts)

☐ Dissemination of messages through social media (Twitter, Facebook, …)

☐ Other:

Do the chosen media change according to the target audience (patients, physicians, nurses, physiotherapists, other health professionals)?

☐ Yes

Please specify

☐ No

Does your organisation have a formal plan for choice of media?

☐ Yes

Please, specify

☐ No

DISSEMINATION

Dissemination: the spreading of knowledge or research, such as is done in scientific journals and at scientific conferences, but with a general lack of emphasis on the development of knowledge or the actual uptake or implementation of the knowledge. (KCE report 212)

Does your organisation have a dissemination specialist?

☐ Yes

☐ No

Which tools are used for dissemination? (Multiple answers are possible)

☐ Your organisation website

☐ Mailing

☐ Printed material

☐ Other:

Does your organisation collaborate with international partners to disseminate new guidelines?

☐ Yes

☐ No

Please specify how new guidelines are disseminated (Multiple answers are possible)

☐ National Guideline Clearinghouse

☐ TRIP-database

☐ GIN- database

☐ Epistemonikos

☐ Other:

IMPLEMENTATION

Implementability refers to guideline characteristics that promote its use by target end-users.

Does your organisation have an implementation specialist?

☐ Yes

☐ No

Which tools are enhancing the implementation?

What is the potential role of Guideline Development Group members in guideline implementation?

What is the potential role of Stakeholders in guideline implementation?

Is there something else, related to enhancing implementability and usability of evidence based knowledge, you want to add?

☐ Yes

Please specify

☐ No

CLOSURE MESSAGE

Thank you for your participation. Final report including survey results will be communicated in 2017 via e-mail.

Submit your survey.
Thank you for completing this survey.

APPENDIX 3. ROLES OF THE GDG AND STAKEHOLDERS AT KCE

In short, the roles assigned to the GDG were:

- To define the clinical questions, in close collaboration with the KCE expert team and stakeholders;
- To identify critical and important outcomes;
- To provide feedback on the selection of studies and identify further relevant manuscripts which may have been missed;
- To provide feedback on the content of the guideline;
- To provide judgement about indirectness of evidence;
- To provide feedback on the draft recommendations;
- To address additional concerns to be reported under a section on 'other considerations'.

The roles assigned to the stakeholders were:

- Professional associations rate recommendations on a 5-point linker scale indicating their level of agreement with the recommendation. When disagreement with recommendations, they were asked to provide an explanation supported by appropriate evidence. The scoring results are then discussed during an open meeting. Scientific arguments reported by these experts were used to adapt the formulation or the strength of the clinical recommendations.
- Patient representatives were ask to check if important considerations from a patients' perspective been missed in the formulation of our recommendations. In addition, they were asked to identify the need to add information that could assist patients in share decision making.

APPENDIX 4. QUALITATIVE RESEARCH TO PREPARE THE ONLINE SURVEY FOR HEALTH PROFESSIONALS

Appendix 4.1. Introduction

Appendix 4.1.1. Method used to collect information

The final goals of this study were to get a clear view on the actual perception and usage of Clinical Practice Guidelines (CPG) among care professionals and to map their (future) needs concerning CPG. To reach this goal the data collection was split in two phases, a qualitative and a quantitative phase.

During the qualitative phase we first defined the target group. Information to define the target group was gathered during two meetings where experts from both KCE and Möbius participated.

Having defined the target group, we searched for a representative for each of the subgroups. This list was based on existing contacts from KCE experts. The main advantage of this approach was that all representatives had a good knowledge about the study subject and the role KCE plays in this landscape.

In order for the data collection to be effective and efficient, the project team jointly created a qualitative interview guide. During the creation of the interview guide, KCE experts provided deep technical knowledge on CPG, Möbius experts focused on the broader scope and non-technical items. Several back-and-forth reviews of the interview guide led to the final interview guide which can be found in attachment.

All representatives were contacted by phone by a Möbius expert in order to schedule an appointment for the qualitative interview. All interviews took place between May 10th and June 10th. The interviews itself were structured qualitative interviews. Two Möbius experts, with extensive healthcare knowledge, performed all interviews. During this interviews both experts noted most important findings and answers to facilitate qualitative data analysis.

Appendix 4.1.2. Method used to analyse qualitative information

After having finished all structured qualitative interviews, the two Möbius experts who performed the interviews started analysing the interviews. During this analysis, some important research dimensions were defined. Based on this dimensions, a Möbius survey expert created and structured a survey-dimension matrix. We refer to 0 the full version of the survey-dimension matrix. This matrix was in turn used to create a first version of the quantitative survey.

Appendix 4.1.3. Interview guide

General introduction

Short presentation of actual study

Explanation of goals of this study

Content and timing of interview

Opening questions

A. What kind of clinical information do your colleagues on the field need in order to be able to execute their job in a good way?

- Is there a need for evidence based practice (EBP) in your professional area?
- Is there a need for Belgian Clinical Practice Guidelines in your professional area?

B. In your professional area, is significant attention being paid to EBP?

- Is EBP (sufficiently) incorporated in existing education programs?

C. What are the most important reasons for you to use Clinical Practice Guidelines (CPG)?

- Are these reasons also applicable to the majority of your colleagues?

D. What are the most important reasons for you NOT to use CPG?

- Are these reasons also applicable to the majority of your colleagues?

Key questions

Usage of CPG in general

A. According to you, what are basic criteria CPG must meet in order for your colleagues to use them?

B. What form of CPG do you think your colleagues most like to use? E.g. full text guidelines, which language, syntax, choice of words, decision trees, patient decision support, graphical support for the care professional, graphical support for the communication with the patient, patient brochures, etc. phased information (1. Summary, 2. Details, 3. Methodological background)

C. What information must be included in CPG in order to meet expectations of your colleagues? E.g. Background, Summary: recommendations, level of evidence, force of recommendations, Details: narrative description of evidence, evidence tables, summary of findings, GRADE score, …

D. What sources do your colleagues use to search for CPG?

a. Which channels do they use to search these sources?

b. How frequently do you think your colleagues are using this sources?

c. When do you think your colleagues are using this sources? (during face to face patient consultation, before consult, after consult, other moments, …)

d. How do you think your colleagues like to use these sources? (paper, digital, app, …)

e. In what language do you think your colleagues like to use these sources? (mother tongue, other)

f. What kind of sources do you think your colleagues use most frequently? (focused on clinical question, full CPG, summary of CPG, …)

g. What modalities need to be modified to facilitate CPG usage among your colleagues?

Usage of KCE CPG

A. What do you know about usage of KCE guidelines by your colleagues?

a. How do you think your colleagues prefer to use KCE guidelines? (e.g. paper, digital, …)

b. What is the preferred language for usage of KCE guidelines among your colleagues? (mother tongue, other)

c. What kind of KCE guidelines do you think your colleagues use most? (focused on clinical question, full CPG, summary CPG, …)

d. What modalities need to be modified to facilitate KCE guidelines usage among your colleagues?

B. What is needed in order to stimulate the usage of KCE guidelines, in terms of usage by more professionals or more frequent usage by professionals who already use the KCE guidelines?

Choice between CPG

A. What are criteria for your colleagues to use or not to use certain CPG, and why?

B. What do you think your colleagues do if they find conflicting CPG?

C. Which criteria are being used by your colleagues to determine the quality of CPG?

D. Which criteria are being used by your colleagues to determine usability of CPG?

Dissemination

A. What is the most appropriate way to disseminate CPG among your colleagues?

Choice of KCE CPG subjects

A. To what extent do you have influence in the process of KCE CPG subject selection?

a. What opportunities do you see to (further) improve this process?

Outro

To conclude, we've touched a lot of topics concerning CPG.

A. Do you have other topics that should be included in the survey we did not discuss yet?

B. What is the most appropriate way to get in touch with your colleagues to fill in this survey?

C. Can you provide us with contact information?

Thanks a lot for your cooperation!

Appendix 4.2. Summary of interviews

Appendix 4.2.1. Summary

Aangezien de geïnterviewden door het KCE werden aangedragen is het evident dat zij vrij goed op de hoogte waren van de werking van het KCE. Navraag leert echter dat de collega's uit het beroepsveld KCE helemaal niet kennen. Er werd telkens aangegeven dat sommige collega's het KCE misschien wel kennen maar zeker niet als een organisatie die klinische praktijkrichtlijnen ontwikkelt. Gevraagd naar de reden hiervoor blijkt dat klinische praktijkrichtlijnen in de praktijk meestal via beroepsorganisaties verspreid worden en dat zorgprofessionals slechts in heel beperkte mate actief op zoek gaan naar richtlijnen.

Een tweede belangrijk punt dat heel vaak naar voor kwam tijdens de interviews is dat er een relatief groot bedrag geïnvesteerd wordt in de ontwikkeling van richtlijnen maar dat het gebruik van deze richtlijnen vaak niet in verhouding staat tot het geïnvesteerde bedrag. Hier werd vaak gesuggereerd om hefbomen te zoeken die het gebruik meer in verhouding kunnen brengen met de investering in de ontwikkeling. Mogelijke suggesties waren het standaard integreren van klinische praktijkrichtlijnen in de programma's voor permanente vorming, het verder uitdiepen van de functionaliteit van de evidence linker tot een echte beslissingsondersteuning, het aanstellen van een marketingteam dat de bevindingen uit de richtlijnen vermarkt – analoog aan hoe farmaceutische bedrijven bevindingen verspreiden.

Hoewel alle leden van de doelgroep een hogere opleiding genoten, blijkt uit alle interviews dat de grote meerderheid van de collega's richtlijnen in de moedertaal verkiezen. Bij navraag blijkt dat zeker de jongere generatie zorgprofessionals wel voldoende kennis heeft van de Engelse taal maar dat dit in de dagelijkse praktijkvoering toch een barrière is om anderstalige klinische praktijkrichtlijnen te gebruiken. Eén van de redenen hiervoor is dat de communicatie met de patiënt over deze richtlijn dan ook moeizamer verloopt. Als er al gebruik gemaakt wordt van klinische praktijkrichtlijnen dan worden deze vaak ook gehanteerd voor overleg met de patiënt en dan is de moedertaal zeker cruciaal.

Het formaat van een klinische praktijkrichtlijn blijkt heel belangrijk te zijn. Er wordt aangehaald dat op vandaag sommige, zeer waardevolle, richtlijnen niet of nauwelijks gekend zijn of gebruikt worden omdat ze niet toegankelijk zijn. Navraag leert dat de geïnterviewden quasi zeker zijn dat niemand van de collega's richtlijnen van meer dan 50 pagina's volledig doorneemt. Een suggestie die heel vaak naar voor kwam, was een gelaagde opbouw met als eerste pagina een samenvatting van de belangrijkste aanbevelingen. Een tweede niveau zou dan meer in detail kunnen ingaan op deze aanbevelingen en op een derde niveau zou dan alle wetenschappelijke evidentie kunnen aangehaald worden. Op die manier kan het gros van de zorgprofessionals op een snelle en eenvoudige manier kennis nemen van de inhoud van de richtlijn en kunnen de geïnteresseerden ook dieper graven naar de achtergrond en de opbouw van de richtlijn.

Appendix 4.2.2. Opening questions

A. What kind of clinical information do your colleagues on the field need in order to be able to execute their job in a good way?

- Is there a need for evidence based practice (EBP) in your professional area?
- Is there a need for Belgian Clinical Practice Guidelines in your professional area?

Gezien het kader waarin het interview plaatsvindt – actuele perceptie en gebruik van klinische praktijkrichtlijnen – is het voor veel respondenten niet duidelijk dat deze vraag ook ruimer gaat dan welke info men verwacht in klinische praktijkrichtlijnen. Als de vraag in die richting bijgestuurd wordt, dus klinische informatie in het algemeen, dan volgt een vrij herkenbare lijst van informatie die zorgprofessionals nodig hebben

- Medische informatie
- Probleemlijst van problemen die de patiënt actueel heeft
- Antecedenten, zaken die de patiënt in het verleden meemaakte
- Medicatielijst van actuele medicatie
- Risico's die verbonden zijn aan werken met de patiënt, bv. snel opvliegend, …
- Sociale aspecten / familie / opleidingsniveau. Waarbij dit laatste dan vooral van belang is in het kader van de patiënteducatie en verhoogde betrokkenheid bij de behandeling.

Los van deze lijst met ruime informatie wordt ook frequent aangehaald dat er nood is aan info gericht op klinische vragen. Vaak is er info aanwezig omtrent een bepaalde pathologie maar minder omtrent bijvoorbeeld: wat doe ik als m'n patiënt zich aandient met hoofdpijn? Wat doe ik als de patiënt aangeeft last te hebben van duizeligheid? Zeker in de subgroep van huisartsen blijkt dit momenteel een lacune te zijn aangezien de meeste beschikbare informatie vertrekt van het moment dat er al een diagnose gesteld is.

Gevraagd naar de nood aan EBP binnen het beroepsveld antwoorden alle geïnterviewden overtuigd positief. Gezien hun betrokkenheid in het landschap van klinische praktijkrichtlijnen lijkt dit antwoord ook logisch. Als doorgevraagd wordt naar de opinie van de collega's in het werkveld blijkt die overtuiging al heel wat minder te zijn. Hoe vaker men in aanraking gekomen is met EBP hoe groter de overtuiging van de meerwaarde. Logisch gevolg hiervan is dat ook aangegeven wordt dat jongere zorgprofessionals meer nood ervaren dan de meer ervaren zorgprofessionals.

Over de nood aan Belgische praktijkrichtlijnen bestaat verdeeldheid. Enkelen geven aan dat dit zeker noodzakelijk is terwijl anderen meer heil zien in goede contextualisatie van buitenlandse praktijkrichtlijnen. Belangrijk bij de contextualisatie is dat dit ook aanzienlijke inspanningen vergt om dit goed te doen. Factoren die worden aangehaald waarmee zeker rekening dient gehouden te worden zijn: incidentie van pathologieën, resistentie ten opzichte van bepaalde antibiotica, raciale verschillen (bijvoorbeeld op vlak van hypertensie), organisatie van de zorg (specialistisch vs 1ste lijn), beschikbaarheid van medicatie en financieringsmodel van de zorg.

B. In your professional area, is significant attention being paid to EBP?

- Is EBP (sufficiently) incorporated in existing education programs?

Gevraagd naar het belang aan EBP in het beroepsveld is de algemene teneur positief maar met nog heel wat ruimte voor verbetering. Er is een algemeen gevoel dat er meer aandacht is voor EBP dan pakweg 10 jaar geleden. Bij doorvragen blijkt dit gevoel erg moeilijk kwantificeerbaar. Wat wel kwantificeerbaar blijkt te zijn is het stijgend aanbod van klinische praktijkrichtlijnen en daarmee gepaard gaand ook het belang dat gehecht wordt aan EBP. Zorgprofessionals die op zoek zijn naar een antwoord op een klinische vraag en van een kale zoektocht terugkeren zijn niet geneigd om aan te geven dat het belangrijk is om te werken volgens EBP principes. Er wordt aangegeven dat dit hoe langer hoe minder voorvalt en dat dus ook de algemene perceptie omtrent EBP gunstig evolueert.

Mensen die betrokken zijn bij de opleiding van jonge zorgprofessionals halen aan dat de zorgprofessionals heel vaak teruggrijpen naar de bronnen die ze tijdens hun basisopleiding hebben leren gebruiken. Meer specifiek betekent dit dat jonge huisartsen vrij frequent teruggrijpen naar de informatie

en de website van Domus Medica. Dit maakt tevens dat er sprake is van een generatiekloof in het belang en gebruik van EBP aangezien de focus in de basisopleiding pas de laatste jaren in die richting is gegaan.

Dezelfde mensen halen aan dat naast het theoretisch verkennen van het EBP landschap de praktische toepasbaarheid van klinische praktijkrichtlijnen zeker nog beter kan. Door hierop in te zetten en de theorie in de praktijk om te zetten, via bijvoorbeeld online filmpjes met toepassing van de aanbevelingen van de klinische praktijkrichtlijn of het praktisch toelichten op een seminarie, wordt algemeen verwacht dat de perceptie én het gebruik van klinische praktijkrichtlijnen een enorme toename zou kunnen kennen.

C. What are the most important reasons for you to use Clinical Practice Guidelines (CPG)?

- Are these reasons also applicable to the majority of your colleagues?
- Kwaliteit van zorg
  - Doelmatigheid van zorg
  - Veiligheid van zorg
  - Patiëntgerichtheid – geen kookboekgeneeskunde, er moeten opties naast mekaar worden aangereikt
- Kosteneffectiviteit
- Organisatie van de zorg -> inzicht in diverse verantwoordelijkheden van multidisciplinair team
- Meer inspraak voor patiënt
- Voor sommigen ook owv indekking
- Voor sommigen ook owv ruggensteun
- Leidraad met meest actuele informatie omtrent behandeling

D. What are the most important reasons for you NOT to use CPG?

Are these reasons also applicable to the majority of your colleagues?

- Tijdsgebrek
- Formaat (geen PDFs waarin niet kan doorgeklikt worden)
- Perceptie dat er slechts 1 goeie oplossing is, relatie met patiënt wordt gereduceerd tot kookboek
- Excuus voor goedkope zorg
- Big brother komt tussen mij en patiënt (vooral bij oudere artsen)
- Houding van de zorgprofessional
- Gewoonte van de zorgprofessional
- Veel verschillende informatie op de markt
- Patiënt wordt cliënt en het blijft geneesKUNDE

Appendix 4.2.3. Usage of CPG in general

A. According to you, what are basic criteria CPG must meet in order for your colleagues to use them?

- Ze moeten vooral betrouwbaar zijn
- Ze moeten volledig zijn en dan gaat het niet zozeer over alle methodologische details maar wel over het volledig 'zorgspectrum' (diagnosestelling, behandeling, follow-up, …)
- De conclusie dient gefundeerd te zijn maar zonder al te veel 'wetenschappelijke ballast'
- Info gelaagd presenteren, 1 A4 met samenvatting van de richtlijn, volgende pagina's met meer detail, 3de niveau met methodologische details.
- De informatie uit de richtlijn moet snel beschikbaar zijn
- De bevindingen van de richtlijn dienen getoetst te worden aan de praktijksituatie
- Er dient heel gerichte informatie gegeven te worden

B. What form of CPG do you think your colleagues most like to use? E.g. full text guidelines, which language, syntax, choice of words, decision trees, patient decision support, graphical support for the care professional, graphical support for the communication with the patient, patient brochures, etc. phased information (1. Summary, 2. Details, 3. Methodological background)

- Moedertaal komt overal terug. Zelfs bij expliciete navraag en verwijzing naar sommige Engelstalige onderdelen in het curriculum blijft men aangeven dat moedertaal cruciale factor is.
- Gelaagde informatie is ideaal, 1 A4 met samenvatting van de richtlijn, volgende pagina's met meer detail, 3de niveau met methodologische details
- Patiëntbrochures met aanbevelingen op niveau van patiënt
- Voor huisartsen wordt heel frequent verwezen naar EMD als bron van gebruik van richtlijnen
- De aangeboden info moet heel vlot doorzoekbaar zijn en men moet telkens een goed overzicht hebben over waar in de richtlijn de info staat en hoe men terug kan keren naar bovenliggend/ander niveau van info.

C. What information must be included in CPG in order to meet expectations of your colleagues? E.g. Background, Summary: recommendations, level of evidence, force of recommendations, Details: narrative description of evidence, evidence tables, summary of findings, GRADE score…

- De informatie dient dicht bij de praktijk te staan
- Zeker geen methodologische details op eerste pagina's – kan interessant zijn voor geïnteresseerden maar helemaal achteraan (evt zelfs in bijlage)
- Evidentieniveau is goed voor kenners maar gros van professionals wil praktische en herkenbare informatie
- Sterkte van de aanbeveling wordt door meeste gebruikers afgeleid uit organisatie die KPR publiceerde (gekende organisaties genieten voorkeur)

D. What sources do your colleagues use to search for CPG?

a. Which channels do they use to search these sources?

b. How frequently do you think your colleagues are using this sources?

c. When do you think your colleagues are using this sources? (during face to face patient consultation, before consult, after consult, other moments, …)

d. How do you think your colleagues like to use these sources? (paper, digital, app, …)

e. In what language do you think your colleagues like to use these sources? (mother tongue, other)

f. What kind of sources do you think your colleagues use most frequently? (focused on clinical question, full CPG, summary of CPG, …)

- Huisartsen werken quasi allemaal via evidence linker in het EMD. Er zijn gesprekken aan de gang met vendors ivm decision support
- Heel veel verloopt via beroepsorganisaties
- Zorgprofessionals grijpen frequent terug naar gekende wegen – als ze überhaupt al gebruik maken van KPR
- EBMpracticenet en KCE onvoldoende gekend bij brede publiek

Appendix 4.2.4. Usage of KCE CPG

A. What do you know about usage of KCE guidelines by your colleagues?

a) How do you think your colleagues prefer to use KCE guidelines? (e.g. paper, digital, …)

- Belangrijke bemerking is dat heel weinig zorgprofessionals gebruik maken van KPR en als ze dat wel doen dan zijn er heel weinig die zich bewust zijn van het feit dat ze KCE KPR gebruiken.
- Digitaal maar dan liefst doorzoekbaar. Op vandaag vaak PDF formaat dat weinig praktisch is in dagelijks gebruik
- Indien mogelijk graag geïntegreerd in andere initiatieven (beroepsorganisatie, EBMpracticenet, …)

b) What is the preferred language for usage of KCE guidelines among your colleagues? (mother tongue, other)

- Moedertaal!

c) What kind of KCE guidelines do you think your colleagues use most? (focused on clinical question, full CPG, summary CPG, …)

- Sterke voorkeur voor specifieke klinische vragen
- Ook nood aan diagnostische KPR

d) What modalities need to be modified to facilitate KCE guidelines usage among your colleagues ?

- Betere vermarkting van de bevindingen van de richtlijnen
- Toegankelijker formaat van richtlijnen

B. What is needed in order to stimulate the usage of KCE guidelines, in terms of usage by more professionals or more frequent usage by professionals who already use the KCE guidelines?

- KPR van KCE ook via evidence linker aanbieden
- KPR van KCE ook direct in template van EBMpracticenet uitleveren

Appendix 4.2.5. Choice between CPG

A. What are criteria for your colleagues to use or not to use certain CPG, and why?

- Comfort van patiënt
- Gewoonte
- Op vlak van bronnen
- Op vlak van medisch handelen
- Er moet realistische info gegeven worden, indien niet realistisch wordt de richtlijn consequent niet meer gebruikt
- Geen conflicts of interest van de auteur, hoewel bij doorvragen blijkt dat niet iedere zorgprofessional zomaar in staat is om dit goed in te schatten.
- Gevalideerd door CEBAM. Deze optie wordt door sommigen aangehaald maar men geeft ook onmiddellijk toe dat dit momenteel nog heel preliminair is, op termijn zou dit wel een doelstelling kunnen worden en ook eenvoudige manier om de kwaliteit van een KPR snel na te gaan.

B. What do you think your colleagues do if they find conflicting CPG?

- Enkel van toepassing in domeinen met veel KPR – voornamelijk artsen!
- Beroepsorganisatie contacteren en vragen naar hun standpunt
- Leidinggevende of collega's contacteren (voor zover van toepassing)

C. Which criteria are being used by your colleagues to determine the quality of CPG?Collega's die al dan niet zelfde KPR gebruiken

- Auteurs hebben autoriteit in onderzoeksdomein
- Organisatie die KPR publiceert is gekend

D. Which criteria are being used by your colleagues to determine usability of CPG?

- Herkenbare praktijksituaties
- Voldoende bondig
- Diverse opties voor diverse situaties met + en – van opties
- Praktische hulpmiddelen in KPR
- Gewoonte / ervaring met KPR

Appendix 4.2.6. Dissemination

A. What is the most appropriate way to disseminate CPG among your colleagues?

- Via beslissingsondersteuning in EMD!!
- Klachtgeörienteerde/diagnostische KPR
- Via specialist uit ziekenhuis
- Via online video's
- Via apps
- Via persoonlijk contact
- Via leveranciers

Appendix 4.2.7. Choice of subjects

A. To what extent do you have influence in the process of KCE CPG subject selection?

- De bestaande flow voor het indienen van een onderzoeksonderwerp is niet bij alle respondenten gekend.
- Een enkeling suggereert om, eens Snomed codering ver genoeg staat, op basis van anonieme analyse van Snomed codes na te gaan welke pathologiën vaak verkeerd behandeld worden en die eruit te nemen als onderwerp van een nieuwe richtlijn.

B. What opportunities do you see to (further) improve this process.

- Ruimere bevraging bij bestaande organisaties
- Betere samenwerking tussen diverse actoren in richtlijnlandschap

Appendix 4.2.8. Dimensions and survey matrix

Table 32 – Dimensions identified during the survey and survey matrix

Dimension	Quotes	Question		
		ID	Wording	Response options
Knowledge regarding guidelines	● depends on profession	F2	Quel métier exercez-vous?	
		F2a	Quelle est votre spécialisation ?	
		F2b	Où travaillez-vous ?	
	● depends on age	F4	A quelle catégorie d'âge appartenez-vous?	
	● depends when the training has occured	F3	Depuis quand êtes-vous actif dans ce domaine ?	
		F5	Depuis combien d'années êtes-vous en formation?	
	● depends on professional experience	F3	Depuis quand êtes-vous actif dans ce domaine ?	
	● more attention is piad to guideline than 10 years ago	F3	Depuis quand êtes-vous actif dans ce domaine ?	
	● favorable general impression about CPG	F11	Seriez-vous prêt à utiliser (d'avantage) des guidelines à l'avenir ?	
			All above questions combined with	
		F7	Avant cette étude, connaissiez-vous les guidelines?	
Needs for guidelines	● depends on age	F4	A quelle catégorie d'âge appartenez-vous?	
	● depends on professional experience	F3	Depuis quand êtes-vous actif dans ce domaine ?	
			All above questions combined with	
		F8	Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guidelines?	
Knowledge about CPG landscape	Professionals do not know			
	● CPG	F7	Avant cette étude, connaissiez-vous les guidelines?	
	● KCE and KCE as guideline developer	F9	Saviez-vous – avant cette étude – que le Centre Fédéral d'Expertise des Soins de Santé (KCE) développe des guidelines ?	
	● EBMpracticeNet	F14	Sur quels canaux RECHERCHEZ-vous des guidelines ? Veuillez cocher toutes les réponses qui sont d'application pour vous	Via des banques de données comme par ex. EBMPracticeNet, CEBAM Digital Library for Health (CDLH),

Dimension	Quotes	Question		
		ID	Wording	Response options
Guideline dissimination	is overall done by	F15	Recevez-vous de l'information sur la parution ou la mise à jour de guidelines?	
		F16	Par quels canaux RECEVEZ-vous cette l'information sur les guidelines ? Veuillez cocher toutes les réponses qui correspondent à votre situation.	
	● professional organisation	F16	Par quels canaux RECEVEZ-vous cette l'information sur les guidelines ? Veuillez cocher toutes les réponses qui correspondent à votre situation.	Via mes collègues Via GLEM Via des organisations professionnelles
	● continuing education	F16	Par quels canaux RECEVEZ-vous cette l'information sur les guidelines ? Veuillez cocher toutes les réponses qui correspondent à votre situation.	Au cours de programmes de formation continue Au cours de symposiums, de congrès, de conférences
	will be improved by			
	● transition from evidence linker to decison support	F16	Par quels canaux RECEVEZ-vous cette l'information sur les guidelines ? Veuillez cocher toutes les réponses qui correspondent à votre situation.	Via evidence alerts
		F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	
	● marketing	F16	Par quels canaux RECEVEZ-vous cette l'information sur les guidelines ? Veuillez cocher toutes les réponses qui correspondent à votre situation.	Via les média sociaux Via de la communication online Via mailing Via des groupes de discussion en ligne Via la presse spécialisée Via les délégués médicaux
Search for guideline	● limited active search	F12	Lorsque vous vous posez une question par rapport à votre pratique, comment cherchez-vous les réponses à vos questions ?	
		F13	Recherchez-vous parfois des guidelines pour les besoins de votre pratique quotidienne?	
	● sources used during the professional training (i.e. Domus medica)	F14	Sur quels canaux RECHERCHEZ-vous des guidelines ?	

Dimension	Quotes	Question		
		ID	Wording	Response options
Drivers	● native language	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Rédigé en anglais
	● format in 3 levels: summary of recommendations, recommendations detailed and evidence	F20	Quelle information aimeriez-vous voir dans un guideline?	Un résumé des recommandations Un aperçu de la littérature supportant les recommandations Les tableaux reprenant les détails des résultats de chaque étude individuelle Les détails sur l'évaluation de la qualité des études retenues dans le guideline
	● contextualization of foreign guideline	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Une adaption d'un guideline international de qualité au contexte de la Belgique
	● communication tools such as video tutorials, seminars	F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Des formations en ligne sur l'utilisation du guideline (vidéos expliquant les conclusions, population cible, ...)
	● integration between stakeholders (professionals organisation, EMBPracticeNet)	F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Un point central où l'on peut retrouver tous les guidelines de qualité
	● CPG are supportive for the practice	F20	Quelle information aimeriez-vous voir dans un guideline?	Une discussion sur les bénéfices et les désavantages des recommandations Une discussion sur les aspects économiques Une discussion sur les préférences des patients Un plan détaillé pour la mise en œuvre des recommandations sur le terrain
	● focus on diagnosis	F18	Un guideline peut prendre plusieurs formes. Classez les formats suivants de 1 à 3 par ordre décroissant de préférence (1 = votre format favori).	Guideline restreint à une question clinique
	● focus on one clinical question / information linked to one clinical question	F18	Un guideline peut prendre plusieurs formes. Classez les formats suivants de 1 à 3 par ordre décroissant de préférence (1 = votre format favori).	Guideline restreint à une question clinique Recommandation rapide (sans rapport relatif aux données de la littérature ex: Up-to-Date, BestBETS ou des autres solutions disponibles sur place, ..)
	● authors' conflict of interest CPG improve	F20	Quelle information aimeriez-vous voir dans un guideline?	Le nom et les qualités des personnes ayant
	● decision sharing with patients	F20	Quelle information aimeriez-vous voir dans un guideline?	Une discussion sur les préférences des patients
		F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Une brochure de vulgarisation des recommandations pour les patients
	● quality of care	F20	Quelle information aimeriez-vous voir dans un guideline?	Une discussion sur les bénéfices et les désavantages des recommandations
	● costeffectiveness	F20	Quelle information aimeriez-vous voir dans un guideline?	Une discussion sur les aspects économiques

Dimension	Quotes	Question		
		ID	Wording	Response options
Barriers	● number of pages	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Présenté de format synthétique de façon à pouvoir être utilisé rapidement et immédiatement Un résumé d'autres guidelines existants
		F20	Quelle information aimeriez-vous voir dans un guideline?	Un résumé des recommandations
	● increasing in CPG offer			
	● lack of time	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Je n'ai pas le temps d'utiliser ces guidelines
	● format (quick navigation in the document)	F17	Comment souhaitez-vous pouvoir consulter les guidelines ?	
	● CPG reduiced to cookbook	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Je ne vois pas l'intérêt de suivre des guidelines
	● reduction of cost purposes	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Je ne vois pas l'intérêt de suivre des guidelines Je n'ai aucune confiance dans ces guidelines
	● health professionals' attitude	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Mon expérience de terrain est plus importante Je préfère me fier à l'expérience de mes collègues / de mes supérieurs
	● health professionals' habits	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Les protocoles du service prévalent sur les guidelines Je suis au courant de l'évidence via des congrès et la littérature médicale (11)
	● to many information and CPG available	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Il y a trop des guidelines (qui se contredisent) Je ne sais pas quels sont les guidelines fiables
	● patient = client or care = art	F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Je ne vois pas l'intérêt de suivre des guidelines Je n'ai aucune confiance dans ces guidelines Les situations évoquées dans les guidelines ne correspondent pas aux situations rencontrées dans ma pratique Les recommandations formulées dans les guidelines sont vagues ou incompréhensibles
	● need for updating process improvement		*Not addressed*	

To maintain a short questionnaire, quality of guideline was not retain as a topic. Moreover, it is not informative for research questions of this study

Dimension	Quotes	Question		
		ID	Wording	Response options
Criteria that a CGP must meet	● reliable	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Développé par une organisation ou association professionnelle Belgique Développé par une organisation ou association professionnelle étrangère
		F20	Quelle information aimeriez-vous voir dans un guideline?	Le nom et les qualités des personnes ayant participé à la rédaction du guideline
		F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Je ne sais pas quels sont les guidelines fiables
	● method not too detailed	F20	Quelle information aimeriez-vous voir dans un guideline?	Le détail de la méthodologie utilisée
	● full guideline (diagnosis, treatment,..)	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Composé de recommandations sur le dépistage, le diagnostic, le traitement, le suivi et l'information aux patients
		F18	Un guideline peut prendre plusieurs formes. Classez les formats suivants de 1 à 3 par ordre décroissant de préférence (1 = votre format favori).	Guideline complet (recommandations relatives au dépistage, au diagnostic, au traitement et au suivi)
	● no too scientific terms, clear text	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Rédigées en langage vulgarisé
		F10	Pourquoi n'utilisez-vous jamais ou rarement de guidelines ?	Les recommandations formulées dans les guidelines sont vagues ou incompréhensibles
	● quick available	F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Un point central où l'on peut retrouver tous les guidelines de qualité
		F14	Sur quels canaux RECHERCHEZ-vous des guidelines ?	Via le Dossier Patient Electronique
	● adapted to the practice	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Une adaption d'un guideline international de qualité au contexte de la Belgique
	● english is a barrier	F19	Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline ?	Rédigé en anglais
	● patients leaflet	F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Une brochure de vulgarisation des recommandations pour les patients
	● link to medical file	F14	Sur quels canaux RECHERCHEZ-vous des guidelines ?	Via le Dossier Patient Electronique
		F17	Comment souhaitez-vous pouvoir consulter les guidelines ?	Intégré à mon dossier patient électronique (support à la décision, alertes, …)
	● interactive document	F17	Comment souhaitez-vous pouvoir consulter les guidelines ?	Sous format électronique interactif avec menus conceptuels
	●level of evidence and stregth of recommendations	F20	Quelle information aimeriez-vous voir dans un guideline?	La force de la recommandation et le niveau de preuve
	● decision tree	F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Un arbre de décision clinique
	● support tools	F21	Quel(s) outil(s) de support aimeriez-vous trouver dans un guideline?	Des outils d'aide à la décision pour les professionnels de santé (calculateur, évaluateur de risques, ...) Des outils d'aide à la communication entre le soignant et le patient

APPENDIX 5. QUESTIONNAIRES FOR HEALTH PROFESSIONALS

Appendix 5.1. Dutch version

Alvast bedankt om enkele minuten tijd vrij te maken voor deze vragenlijst over het gebruik van klinische praktijkrichtlijnen. De verwerking van uw antwoorden zal volledig anoniem gebeuren. Om u te bedanken voor uw deelname maakt u, en twee andere deelnemers, kans op een smartwatch of een gastronomisch etentje, naargelang uw voorkeur. Ze zullen personnelijk waarschuwen.

Q2 Welk beroep oefent u uit?

- ❍ Huisarts (1)
- ❍ Huisarts in opleiding (2)
- ❍ Arts-specialist (3)
- ❍ Arts-specialist in opleiding (4)
- ❍ Verpleegkundige (5)
- ❍ Vroedkundige (6)
- ❍ Kinesitherapeut (7)
- ❍ Andere (16)

Answer If Welk beroep oefent u uit? Andere Is Selected

Q31 Het spijt ons, dit onderzoek is enkel bedoeld voor artsen, verpleegkundigen, vroedvrouwen en kinesitherapeuten. Toch bedankt voor uw interesse!

If Het spijt ons maar dit onde... Is Displayed, Then Skip To End of Survey

Answer If Welk beroep oefent u uit? Arts-specialist Is Selected Or Welk beroep oefent u uit? Arts-specialist in opleiding Is Selected

Q2a Welke discipline beoefent u als arts?

- ❍ Anesthesie - reanimatie (3)
- ❍ Arbeidsgeneeskunde (4)
- ❍ Cardiologie (5)
- ❍ Chirurgie (6)
- ❍ Dermato-venereologie (7)
- ❍ Endocrinologie (35)
- ❍ Fysische geneeskunde en revalidatie (8)
- ❍ Gastro-enterologie (9)
- ❍ Geriatrie (10)
- ❍ Gynaecologie - verloskunde (11)
- ❍ Inwendige geneeskunde (12)
- ❍ Kinderpsychiatrie (36)
- ❍ Klinische biologie (13)
- ❍ Neurochirurgie (14)
- ❍ Neurologie (15)
- ❍ Neuropsychiatrie (16)
- ❍ Nucleaire geneeskunde (17)
- ❍ Oftalmologie (18)
- ❍ Oncologie (19)
- ❍ Orthopedie (20)
- ❍ Otorinolaryngologie (21)
- ❍ Pathologische anatomie (22)
- ❍ Pediatrie (23)
- ❍ Plastische, reconstructieve en esthetische heelkunde (24)
- ❍ Pneumologie (25)
- ❍ Psychiatrie (26)
- ❍ Radiaotherapie - oncologie (27)
- ❍ Reumatologie (28)
- ❍ Röntgendiagnose (29)

- ❍ Stomatologie (30)
- ❍ Urgentiegeneeskunde / Acute geneeskunde (31)
- ❍ Urologie (32)
- ❍ Verzekeringsgeneeskunde en medische expertie (33)
- ❍ Ander (34) _____

Q2b Waar werkt u? Graag alle antwoorden aanduiden die voor u van toepassing zijn.

- ❑ Universitair ziekenhuis (1)
- ❑ Algemeen of regionaal ziekenhuis (2)
- ❑ Zelfstandige privé praktijk (3)
- ❑ Groepspraktijk (4)
- ❑ Psychiatrische setting (5)

If Welk beroep oefent u uit? Arts-specialist Is Not Selected And Welk beroep oefent u uit? Arts-specialist in opleiding Is Not Selected

- ❑ Thuisverpleegkundige organisatie (werknemer) (6)

If Welk beroep oefent u uit? Verpleegkundige Is Selected

- ❑ School of CLB (7)

If Welk beroep oefent u uit? Verpleegkundige Is Selected Or Welk beroep oefent u uit? Vroedkundige Is Selected Or Welk beroep oefent u uit? Huisarts Is Selected Or Welk beroep oefent u uit? Huisarts in opleiding Is Selected Or Welke discipline beoefent u als arts Pediatrie Is Selected

- ❑ Kind & Gezin (8)

- ❑ Onderwijs en opleiding (9)

If Welk beroep oefent u uit? Verpleegkundige Is Selected Or Welk beroep oefent u uit? Kinesitherapeut Is Selected Or Welk beroep oefent u uit? Huisarts Is Selected

- ❑ Rusthuis / Woonzorgcentrum (WZC) (10)

If Welk beroep oefent u uit? Verpleegkundige Is Selected Or Welk beroep oefent u uit? Kinesitherapeut Is Selected Or Welk beroep oefent u uit? Arts-specialist Is Selected Or Welk beroep oefent u uit? Arts-specialist in opleiding Is Selected

- ❑ Revalidatiecentrum (11)

- ❑ Gehandicaptenzorg (12)
- ❑ Andere, specifieer (13) _____

Answer If Welk beroep oefent u uit? Huisarts in opleiding Is Not Selected And Welk beroep oefent u uit? Arts-specialist in opleiding Is Not Selected

Q3 Hoe lang bent u al actief in dit domein?

- ❍ < 6 jaar (1)
- ❍ 6 - 10 jaar (2)
- ❍ 11 - 20 jaar (3)
- ❍ 21 - 30 jaar (4)
- ❍ > 30 jaar (5)

Q4 Tot welke leeftijdscategorie behoort u?

- ❍ < 31 jaar (1)
- ❍ 31 - 40 jaar (2)
- ❍ 41 - 50 jaar (3)
- ❍ 51 - 60 jaar (4)
- ❍ > 60 jaar (5)

Answer If Welk beroep oefent u uit? Huisarts in opleiding Is Selected Or Welk beroep oefent u uit? Arts-specialist in opleiding Is Selected

Q5 Wat is uw huidige specialisatiejaar?

- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)

Een klinische praktijkrichtlijn is een geheel van aanbevelingen en hulpmiddelen om de beslissingen van zorgverleners te ondersteunen. Het is het resultaat van een systematische methode om de meest recente internationale wetenschappelijke literatuur en ervaring uit het werkveld samen te brengen. Klinische praktijkrichtlijnen zijn geen protocollen of klinische paden.

Q6 Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen?

- ❍ Ik had er nog nooit van gehoord. (1)
- ❍ Ik kende dit enkel van naam, maar wist er verder niets over. (2)
- ❍ Ik kende dit en wist ongeveer wat klinische praktijkrichtlijnen zijn. (3)
- ❍ Ik wist goed wat klinische praktijkrichtlijnen zijn. (4)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen ? Ik kende dit en wist ongeveer wat klinische praktijkrichtlijnen zijn. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen ? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q6b Zijn er vandaag, voor uw beroepsgroep, voldoende praktijkrichtlijnen beschikbaar?

- ❍ Ja, zowel op nationaal als internationaal niveau (1)
- ❍ Ja, maar enkel op internationaal niveau (2)
- ❍ Neen (3)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q7 Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen?

- ❍ Dagelijks (1)
- ❍ Minstens één keer per week (2)
- ❍ Minstens één keer per maand (6)
- ❍ Minstens één keer per jaar (3)
- ❍ Minder dan één keer per jaar (4)
- ❍ Nooit (9)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik had hier nog nooit van gehoord. Is Not Selected

Q8 Wist u – vóór dit onderzoek – dat het Federaal Kenniscentrum voor de Gezondheidszorg (KCE) klinische praktijkrichtlijnen ontwikkelt?

- ❍ Ja, en ik maak gebruik van de praktijkrichtlijnen van het KCE (1)
- ❍ Ja, maar ik maak geen gebruik van de praktijkrichtlijnen van het KCE (2)
- ❍ Ja, maar ik weet niet welke van het KCE zijn (3)
- ❍ Neen, ik wist niet dat het KCE praktijkrichtlijnen ontwikkelt (4)

Answer If Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Minder dan één keer per jaar Is Selected Or Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Minstens één keer per jaar Is Selected Or Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Nooit Is Selected

Q9 Waarom maakt u zelden/geen gebruik van praktijkrichtlijnen? Meerdere antwoorden zijn mogelijk.

- ❑ Ik gebruik de protocollen van mijn dienst (9)
- ❑ Ik vertrouw op de ervaring van mijn collega's / mijn leidinggevenden (12)
- ❑ Mijn eigen praktijkervaring is belangrijker (10)
- ❑ Ik blijf op de hoogte van evidence via congressen en medische literatuur (11)
- ❑ Ik zie er het nut niet van in om praktijkrichtlijnen te volgen (1)
- ❑ Ik heb geen vertrouwen in praktijkrichtlijnen (2)
- ❑ Ik weet niet welke praktijkrichtlijnen betrouwbaar zijn (8)
- ❑ Ik weet niet waar ik praktijkrichtlijnen kan vinden (3)
- ❑ Ik heb geen tijd om praktijkrichtlijnen te gebruiken (4)
- ❑ Er zijn te veel praktijkrichtlijnen (5)
- ❑ De praktijkrichtlijnen spreken elkaar tegen
- ❑ De situaties omschreven in de praktijkrichtlijnen komen niet overeen met situaties die ik ervaar in de praktijk (6)
- ❑ De aanbevelingen geformuleerd in praktijkrichtlijnen zijn vaag en moeilijk te begrijpen (7)
- ❑ Andere: (14) _____

Answer If Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Minder dan één keer per jaar Is Selected Or Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Minstens één keer per jaar Is Selected Or Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Nooit Is Selected Or Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Minstens één keer per week Is Selected Or Bij de uitoefening van uw beroep, hoe frequent maakt u gebruik van praktijkrichtlijnen? Minstens één keer per maand Is Selected

Q10 Staat u ervoor open om praktijkrichtlijnen (meer) te gebruiken in de toekomst?

- ❍ Ja (1)
- ❍ Neen (4)
- ❍ Ik weet het niet (3)

Q11 Als u een vraag heeft in verband met een klinisch probleem, hoe zoekt u naar antwoorden? Meerdere antwoorden mogelijk.

- ❑ Via collega's (1)
- ❑ Via papieren of elektronische documentatie die op mijn werk beschikbaar is (protocols of klinische paden) (5)
- ❑ Via een online zoekrobot (bv. Google, Bing, ...) (4)
- ❑ Via de website van mijn wetenschappelijke beroepsorganisatie (7)
- ❑ Via de website van EBMPracticeNET (10)
- ❑ Via de website van CEBAM Digital Library for Health (CDLH) (11)
- ❑ Via de KCE website (12)

If Welk beroep oefent u uit? Huisarts Is Selected Or Welk beroep oefent u uit? Huisarts in opleiding Is Selected Or Welk beroep oefent u uit? Arts-specialist Is Selected Or Welk beroep oefent u uit? Arts-specialist in opleiding Is Selected

- ❑ LOKs (2)
- ❑ Andere: (14) _____

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q12 Zoekt u soms praktijkrichtlijnen op voor uw dagelijkse praktijk?

- ❍ Ja (1)
- ❍ Neen (2)

Answer If Zoekt u soms informatie over richtlijnen? Ja Is Selected

Q13 Via welke kanalen ZOEKT u praktijkrichtlijnen? Gelieve alle antwoorden aan te duiden die voor u van toepassing zijn.

- ❑ Via mijn collega's (1)
- ❑ Via de KCE website (2)
- ❑ Via handboeken (21)
- ❑ Via peer reviewed literatuur (22)
- ❑ Via een online zoekrobot (bv. Google, Bing, ...) (12)
- ❑ Via beroepsorganisaties (3)
- ❑ Via online discussiegroepen (4)
- ❑ Via het Elektronisch Patiëntendossier (6)
- ❑ Via vaktijdschriften (7)
- ❑ Via websites van organisaties die klinische praktijkrichtlijnen ontwikkelen (8)
- ❑ Via databanken zoals bv. EBMPracticeNet, CEBAM Digital Library for Health (CDLH), ... (9)
- ❑ Via andere kanalen, welke? (10) _____
- ❑ Weet niet / geen antwoord (11)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q14 Ontvangt u informatie over het verschijnen of de update van praktijkrichtlijnen?

- ❍ Ja (1)
- ❍ Neen (2)

Answer If Ontvangt u informatie over richtlijnen? Ja Is Selected

Q15 Via welke kanalen ONTVANGT u deze informatie? Gelieve alle antwoorden aan te duiden die voor u van toepassing zijn.

- ❑ Via collega's (1)

If Welk beroep oefent u uit? Huisarts Is Selected Or Welk beroep oefent u uit? Huisarts in opleiding Is Selected Or Welk beroep oefent u uit? Arts-specialist Is Selected Or Welk beroep oefent u uit? Arts-specialist in opleiding Is Selected

- ❑ LOKs (2)
- ❑ Via beroepsorganisaties (3)
- ❑ Via sociale media (4)
- ❑ Via online communicatie (5)
- ❑ Via mailing (6)
- ❑ Via evidence alerts (7)
- ❑ Via online discussiegroepen (8)
- ❑ Tijdens continue opleidingsprogramma's (9)
- ❑ Tijdens symposia, congressen, conferenties (10)
- ❑ Via vaktijdschriften (11)
- ❑ Via medisch afgevaardigden (12)
- ❑ Via andere kanalen, welke? (13) _____
- ❑ Weet niet / geen antwoord (14)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q16 Hoe wilt u het liefst praktijkrichtlijnen kunnen raadplegen? Meerdere antwoorden zijn mogelijk.

- ❑ Op papier (afgedrukt, boek, brochure, magazine, ...) (1)
- ❑ In elektronisch formaat (bv. PDF) (2)
- ❑ In interactief elektronisch formaat met doorkliks (3)
- ❑ Geïntegreerd in het elektronisch medisch dossier (decision support, alerts, ...) (4)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen (KPR)? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q17 Een richtlijn kan verschillende vormen aannemen. Rangschik van 1 tot 3 in aflopende volgorde (1 = grootste voorkeur).

_____ Volledige richtlijn (bv.aanbevelingen over opsporing, diagnose, behandeling en follow-up van migraine) (1)
_____ Richtlijn gefocust op 1 specifieke klinische vraag (bv. aanbevelingen over de behandeling van migraine) (2)
_____ Snelle aanbeveling (zonder rapportering van evidence, bv. up-to-date, BestBETs of andere point-of-care oplossingen-bv. gebruik van aspirine bij migraine) (3)

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q18 U ziet een aantal kenmerken van praktijkrichtlijnen,. Kan u aangeven welke u belemmeren of stimuleren om een praktijkrichtlijn te gebruiken. Indien bepaalde aspecten noch belemmerend noch bevorderend werken duidt u 'neutraal' aan.

	Belemmerende factor (1)	Neutraal (2)	Bevorderende factor (3)
Opgesteld in het Engels (2)	❍	❍	❍
Geschreven in dagelijkse taal (bv. doorligwonden vs decubituswonden) (11)	❍	❍	❍
Met aanbevelingen die bedoeld zijn voor verschillende soorten zorgverleners (14)	❍	❍	❍
een samenvatting van andere bestaande praktijkrichtlijnen (12)	❍	❍	❍
Ontwikkeld door een Belgische beroepsorganisatie of -vereniging (15)	❍	❍	❍
Ontwikkeld door een buitenlandse beroepsorganisatie of -vereniging (8)	❍	❍	❍
Een internationale richtlijn, aangepast aan de Belgische context (13)	❍	❍	❍

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen ? Ik kende dit en wist ongeveer wat klinische praktijkrichtlijnen zijn. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen ? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q35 Andere belemmerende factor(en)?

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen ? Ik kende dit en wist ongeveer wat klinische praktijkrichtlijnen zijn. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen ? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q36 Andere bevorderende factor(en)?

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q19 Welke informatie over de ontwikkeling van de inhoud moet een praktijkrichtlijn volgens u bevatten ?

	Niet nuttig (1)	Goed om te hebben, maar niet essentieel (2)	Onmisbaar (3)
Details over de gebruikte methodologie (4)	❍	❍	❍
Informatie over de auteurs van de richtlijn (5)	❍	❍	❍
De belangenconflicten van de auteurs van de richtlijn	❍	❍	❍

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

F19bis Welke informatie over de literatuur moet een praktijkrichtlijn volgens u bevatten ?

	Niet nuttig (1)	Goed om te hebben, maar niet essentieel (2)	onmisbaar (3)
Een overzicht van de literatuur die de aanbevelingen ondersteunt(6)	❍	❍	❍
Een samenvatting van de aanbevelingen (1)	❍	❍	❍
De kracht van de aanbeveling en het niveau van wetenschappelijk bewijs (2)	❍	❍	❍
De evidencetabellen (tabel met details van elke individuele studie) (7)	❍	❍	❍
Details over de kwaliteitsevaluatie van de weerhouden studies in de richtlijn (8)	❍	❍	❍

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q19ter Welke informatie over de contextualisatie en de deliberatie moet een praktijkrichtlijn volgens u bevatten ?

	Niet nuttig (1)	Goed om te hebben, maar niet essentieel (2)	onmisbaar (3)
Een discussie over de voor- en nadelen van de aanbevelingen (9)	❍	❍	❍
Een discussie over de economische aspecten (10)	❍	❍	❍
Een discussie over de voorkeuren van de patiënt (11)	❍	❍	❍
Een gedetailleerd plan voor de implementatie van de aanbevelingen op het terrein (12)	❍	❍	❍

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q20 Welke hulpmiddelen vindt u nuttig bij het gebruik van praktijkrichtlijnen?

	Niet nuttig (1)	Goed om te hebben, maar niet essentieel (2)	onmisbaar (3)
Een klinische beslissingsboom (1)	❍	❍	❍
Beslissingshulpmiddelen voor zorgprofessionals (calculator, risicoberekening, ...) (2)	❍	❍	❍
Hulpmiddelen om de communicatie tussen zorgverlener en patiënt te bevorderen (3)	❍	❍	❍
Een brochure waarin aanbevelingen ‘vertaald’ zijn voor de patiënt (4)	❍	❍	❍
Online opleiding over het gebruik van de richtlijn (video's over de conclusies , doelpubliek, ...) (6)	❍	❍	❍
Een centrale locatie waar alle kwaliteitsvolle richtlijnen terug te vinden zijn (7)	❍	❍	❍

Answer If Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik kende dit en wist ongeveer wat dit is. Is Selected Or Kende u – vóór dit onderzoek – klinische praktijkrichtlijnen? Ik wist goed wat klinische praktijkrichtlijnen zijn. Is Selected

Q21 Heeft u nog suggesties voor de verbetering van praktijkrichtlijnen, opmerkingen of bedenkingen die nog niet aan bod zijn gekomen in de vragenlijst?

Q22 U bent

- ❍ een man (1)
- ❍ een vrouw (2)

Q23 Wat is de postcode van uw woonplaats?

Q24 U bent aan het einde van de vragenlijst gekomen. Wij wensen u heel hartelijk te bedanken voor uw medewerking aan dit onderzoek!

U kan uw e-mailadres invullen (gelieve aan te vinken) :

- als u graag op de hoogte wil worden gehouden van de KCE-publicaties
- als u kans wil maken op één van de drie smartwatches of een gastronomisch etentje

Dit adres zal niet worden gebruikt bij de verwerking van de resultaten of voor commerciële doeleinden.

Appendix 5.2. French version

D'avance un tout grand merci de bien vouloir consacrer un peu de votre temps à cette enquête! Nous vous informons que vos réponses seront traitées de façon anonyme.

Pour vous remercier, trois participants seront tirés au sort pour gagner, au choix, une Smart Watch ou un repas gastronomique. Ils seront prévenus personnellement.

F2 Quel métier exercez-vous?

- ❍ Médecin généraliste (1)
- ❍ Médecin généraliste en formation (2)
- ❍ Médecin spécialiste (8)
- ❍ Médecin spécialiste en formation (9)
- ❍ Infirmièr(e) (3)
- ❍ Sage-femme (4)
- ❍ Kinésithérapeute (7)
- ❍ Autre (13)

Answer If Quel métier exercez-vous? Autre Is Selected

Q37 Désolé, cette enquête s'adresse uniquement aux médecins, infirmièr(e)s, sages-femmes et kinésithérapeutes. Merci de l'intérêt que vous avez porté à notre questionnaire.

If Désolé, cette enquête s'adr... Is Displayed, Then Skip To End of Survey

Answer If Quel métier exercez-vous? Médecin spécialiste Is Selected Or Quel métier exercez-vous? Médecin spécialiste en formation Is Selected

F2a Quelle est votre spécialisation?

- ❍ Anatomopathologie (2)
- ❍ Anesthésie - réanimation (3)
- ❍ Biologie clinique (4)
- ❍ Cardiologie (5)
- ❍ Chirurgie (6)
- ❍ Chirurgie plastique, reconstructrice et esthétique (7)

- ❍ Dermatologie - vénérologie (8)
- ❍ Endocrinologie (9)
- ❍ Gastro - entérologie (10)
- ❍ Gériatrie (11)
- ❍ Gynécologie - obstétrique (12)
- ❍ Médecine d'assurance et expertise médicale (14)
- ❍ Médecine d'urgence (15)
- ❍ Médecine du travail (16)
- ❍ Médecine interne (17)
- ❍ Médecine nucléaire (18)
- ❍ Médecine physique et revalidation (19)
- ❍ Neurochirurgie (20)
- ❍ Neurologie (21)
- ❍ Neuropsychiatrie (22)
- ❍ Ophtalmologie (23)
- ❍ Oncologie (24)
- ❍ Orthopédie (25)
- ❍ Oto-rhino-laryngologie (26)
- ❍ Pédiatrie (27)
- ❍ Pédopsychiatrie (28)
- ❍ Pneumologie (29)
- ❍ Psychiatrie (30)
- ❍ Radiologie médicale (31)
- ❍ Radiothérapie - oncologie (32)
- ❍ Rhumatologie (33)
- ❍ Stomatologie (34)
- ❍ Urologie (35)
- ❍ Autre: (36) _____

F2b Où travaillez-vous? Merci de cocher toutes les réponses qui s'appliquent à votre situation.

- ❑ Hôpital universitaire (1)
- ❑ Hôpital général ou régional (2)
- ❑ Pratique solo en cabinet privé (3)
- ❑ Pratique de groupe (4)
- ❑ Soins psychiatriques (5)

If Quel métier exercez-vous? Médecin spécialiste Is Not Selected And Quel métier exercez-vous? Médecin spécialiste en formation Is Not Selected

- ❑ Soins à domicile (6)

If Quel métier exercez-vous? Infirmier(e) Is Selected

- ❑ Ecole ou centre PMS (11)

If Quel métier exercez-vous? Infirmier(e) Is Selected Or Quel métier exercez-vous? Sage-femme Is Selected Or Quel métier exercez-vous? Médecin généraliste Is Selected Or Quel métier exercez-vous? Médecin généraliste en formation Is Selected Or En tant que médecin, quelle est votre spécialité ? Pédiatrie Is Selected

- ❑ ONE (7)

- ❑ Enseignement et formation (8)

If Quel métier exercez-vous? Infirmier(e) Is Selected Or Quel métier exercez-vous? Kinésithérapeute Is Selected And Quel métier exercez-vous? Médecin généraliste Is Selected

- ❑ Maison de repos (9)

If Quel métier exercez-vous? Infirmier(e) Is Selected Or Quel métier exercez-vous? Kinésithérapeute Is Selected Or Quel métier exercez-vous? Médecin spécialiste Is Selected

- ❑ Centre de revalidation (10)

- ❑ Secteur des personnes handicapées (12)
- ❑ Autre, précisez (13) _____

Answer If Quel métier exercez-vous? Médecin généraliste Is Selected Or Quel métier exercez-vous? Infirmier(e) Is Selected Or Quel métier exercez-vous? Sage-femme Is Selected Or Quel métier exercez-vous? Kinésithérapeute Is Selected Or Quel métier exercez-vous? Médecin spécialiste Is Selected

F3 Depuis combien de temps êtes-vous actif dans ce domaine?

- ❍ < 6 ans (1)
- ❍ 6 - 10 ans (2)
- ❍ 11 - 20 ans (3)
- ❍ 21 - 30 ans (4)
- ❍ > 30 ans (5)

F4 A quelle catégorie d'âge appartenez-vous?

- ❍ < 31 ans (1)
- ❍ 31 - 40 ans (2)
- ❍ 41 - 50 ans (3)
- ❍ 51 - 60 (4)
- ❍ > 60 (5)

Answer If Quel métier exercez-vous? Médecin généraliste en formation Is Selected Or Quel métier exercez-vous? Médecin spécialiste en formation Is Selected

F5 Depuis combien d'années êtes-vous en formation?

- ❍ 1 (1)
- ❍ 2 (2)
- ❍ 3 (3)
- ❍ 4 (4)
- ❍ 5 (5)
- ❍ 6 (6)

F6 Un guideline est un ensemble de recommandations et/ou d'outils destinés à aider les praticiens dans leurs choix. Les guidelines sont élaborés selon une méthode systématisée d'analyse et de compilation des données les plus récentes de la littérature scientifique internationale et de l'expérience de terrain. Ils ne doivent pas être confondus avec les protocoles ou les itinéraires cliniques.

F7 Avant cette étude, connaissiez-vous les guidelines?

- ❍ Je n'en avais encore jamais entendu parler. (1)
- ❍ Je connaissais le concept, mais n'en savais pas plus. (2)
- ❍ Je connaissais le concept et savais plus ou moins ce qu'était un guideline. (3)
- ❍ Je savais déjà ce que sont les guidelines. (4)

Answer If Avant cette étude, connaissiez-vous les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Avant cette étude, connaissiez-vous les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

Q34 Dans votre discipline, disposez-vous de suffisamment de guidelines pour soutenir votre pratique?

- ❍ Oui, tant au niveau belge qu'au niveau international (1)
- ❍ Oui, mais uniquement au niveau international (2)
- ❍ Non (3)

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F8 Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guidelines?

- ❍ Quotidiennement (1)
- ❍ Au moins une fois par semaine (6)
- ❍ Au moins une fois par mois (2)
- ❍ Au moins une fois par an (3)
- ❍ Moins d'une fois par an (5)
- ❍ Jamais (10)

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je n'en avais encore jamais entendu parler. Is Not Selected

F9 Saviez-vous – avant cette étude – que le Centre Fédéral d'Expertise des Soins de Santé (KCE) développe des guidelines?

- ❍ Oui, et j'utilise les guidelines du KCE (1)
- ❍ Oui, mais je n'utilise pas les guidelines du KCE (2)
- ❍ Oui, mais je ne sais pas quels guidelines émanent du KCE (3)
- ❍ Non, je ne savais pas que le KCE produisait des guidelines (4)

Answer If Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Au moins une fois par an Is Selected Or Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Moins qu'une fois par ans Is Selected Or Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Jamais Is Selected

F10 Pourquoi n'utilisez-vous jamais ou rarement de guidelines? Cochez une ou plusieurs raisons proposées.

- ❑ J'utilise les protocoles du service où je travaille (9)
- ❑ Je préfère me fier à l'expérience de mes collègues / de mes supérieurs (12)
- ❑ Mon expérience de terrain me semble plus importante (10)
- ❑ Je suis au courant de l'évidence via des congrès et la littérature médicale (11)
- ❑ Je ne vois pas l'intérêt de suivre des guidelines (1)
- ❑ Je n'ai aucune confiance dans ces guidelines (2)
- ❑ Je ne sais pas quels sont les guidelines fiables (8)
- ❑ Je n'ai pas la moindre idée de l'endroit où je peux trouver ces guidelines (3)
- ❑ Je n'ai pas le temps d'utiliser ces guidelines (4)
- ❑ Il y a trop de guidelines (5)
- ❑ Les guidelines se contredisent entre eux
- ❑ Les situations évoquées dans les guidelines ne correspondent pas aux situations rencontrées dans ma pratique (6)
- ❑ Les recommandations formulées dans les guidelines sont vagues ou incompréhensibles (7)
- ❑ Autre: (14) _____

Answer If Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Moins qu'une fois par an Is Selected Or Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Au moins une fois par an Is Selected Or Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Jamais Is Selected Or Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Au moins une fois par mois Is Selected Or Dans l'exercice de votre activité professionnelle, à quelle fréquence utilisez-vous des guideline... Au moins une fois par semaine Is Selected

F11 Seriez-vous prêt à utiliser (davantage) de guidelines à l'avenir?

- ❍ Oui (1)
- ❍ Non (4)
- ❍ Je ne sais pas (3)

F12 Lorsque vous vous posez une question par rapport à votre pratique, comment cherchez-vous les réponses à vos questions? Veuillez cocher toutes les réponses qui sont d'application pour vous.

- ❑ Via les collègues (1)
- ❑ Via la documentation papier ou digitale disponible sur mon lieu de travail (protocoles ou itinéraire clinique) (4)
- ❑ Via des moteurs de recherche généralistes (ex. Google, Bing, ...) (3)
- ❑ Via des sites internet de mon organisation professionnelle (5)
- ❑ Via le site EBMPracticeNET (8)
- ❑ Via le site de CEBAM Digital Library for Health (CDLH) (9)
- ❑ Via le site du KCE (10)

If Quel métier exercez-vous? Médecin généraliste Is Selected Or Quel métier exercez-vous? Médecin généraliste en formation Is Selected Or Quel métier exercez-vous? Médecin spécialiste Is Selected Or Quel métier exercez-vous? Médecin spécialiste en formation Is Selected

- ❑ Via GLEM (30)
- ❑ Autre: (31) _____

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F13 Recherchez-vous parfois des guidelines pour les besoins de votre pratique quotidienne?

- ❍ Oui (1)
- ❍ Non (2)

Answer If Recherchez-vous actif de l'information sur les guidelines? Oui Is Selected

F14 Via quels canaux RECHERCHEZ-vous des guidelines? Veuillez cocher toutes les réponses qui sont d'application pour vous.

- ❑ Via mes collègues (1)
- ❑ Via le site de KCE (2)
- ❑ Via des manuels (21)
- ❑ Via la littérature scientifique peer reviewed (22)
- ❑ Via des moteurs de recherche généralistes (ex: Google, Bing, ...) (12)
- ❑ Via des organisations professionnelles (3)
- ❑ Via des groupes de discussion en ligne (4)
- ❑ Via le Dossier Patient Electronique (6)
- ❑ Via la presse spécialisée (7)
- ❑ Via les sites d'agences développant des guidelines (8)
- ❑ Via des banques de données comme par ex. EBMPracticeNet, CEBAM Digital Library for Health (CDLH), ... (9)
- ❑ Via d'autres canaux, lesquels? (10) _____
- ❑ Ne sais pas / pas de réponse (11)

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F15 Recevez-vous de l'information sur la parution ou la mise à jour de guidelines?

- ❍ Oui (1)
- ❍ Non (2)

Answer If Recevez-vous de l'information sur les guidelines? Oui Is Selected

F16 Par quels canaux RECEVEZ-vous cette l'information sur les guidelines? Veuillez cocher toutes les réponses qui correspondent à votre situation.

- ❑ Via mes collègues (1)

If Quel métier exercez-vous? Médecin généraliste Is Selected Or Quel métier exercez-vous? Médecin généraliste en formation Is Selected Or Quel métier exercez-vous? Médecin spécialiste Is Selected Or Quel métier exercez-vous? Médecin spécialiste en formation Is Selected

- ❑ Via GLEM (2)
- ❑ Via des organisations professionnelles (3)
- ❑ Via les média sociaux (4)
- ❑ Via de la communication online (5)
- ❑ Via mailing (6)
- ❑ Via des evidence alerts (7)
- ❑ Via des groupes de discussion en ligne (8)
- ❑ Au cours de programmes de formation continue (9)
- ❑ Au cours de symposiums, de congrès, de conférences (10)
- ❑ Via la presse spécialisée (11)
- ❑ Via les délégués médicaux (12)
- ❑ Via d'autres canaux, lesquels? (13) _____
- ❑ Ne sais pas / pas de réponse (14)

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F17 Comment souhaitez-vous pouvoir consulter les guidelines? Plusieurs réponses sont possibles.

- ❑ Sur papier (fiche imprimée, livre, brochure) (1)
- ❑ Sous format électronique statique (ex. PDF) (2)
- ❑ Sous format électronique interactif avec menus conceptuels (3)
- ❑ Intégré à mon dossier patient électronique (support à la décision, alertes, …) (4)

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F18 Un guideline peut prendre plusieurs formes. Classez les formats suivants de 1 à 3 par ordre décroissant de préférence (1 = votre format favori).

_____ Guideline complet (exemple : recommandations relatives au dépistage, au diagnostic, au traitement et au suivi de la migraine) (1)
_____ Guideline restreint à une question clinique (exemple : recommandations relatives au traitement de la migraine) (2)
_____ Recommandation rapide (sans rapport relatif aux données de la littérature ex: Up-to-Date, BestBETS ou autres solutions disponibles sur place, … exemple : utilisation de l'aspirine dans la migraine) (3)

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F19 Voici quelques aspects relatifs à la forme et au contenu d'un guideline. Pouvez-vous indiquer quels facteurs constituent un obstacle ou un incitant à l'utilisation d'un guideline? Dans le cas où certains aspects ne constituent ni un obstacle ni un incitant, choisissez l'option neutre. Le guideline est:

	Obstacle (1)	Neutre (2)	Levier (3)
rédigé en anglais (2)	❍	❍	❍
rédigé en langage usuel (exemple : escarres versus ulcères de décubitus) (11)	❍	❍	❍
est composé de recommandations qui peuvent s'adresser à plusieurs types de professionnels (14)	❍	❍	❍
un résumé d'autres guidelines existants (12)	❍	❍	❍
développé par une organisation ou association professionnelle belge (15)	❍	❍	❍
développé par une organisation ou association professionnelle étrangère (8)	❍	❍	❍
Une adaptation d'un guideline international de qualité au contexte belge (13)	❍	❍	❍

Answer If Avant cette étude, connaissiez-vous les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Avant cette étude, connaissiez-vous les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

Q35 Souhaitez-vous mentionner d'autres obstacles à l'utilisation des guidelines?

Answer If Avant cette étude, connaissiez-vous les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Avant cette étude, connaissiez-vous les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

Q36 Souhaitez-vous mentionner d'autres incitants à l'utilisation des guidelines?

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F20 Quelle(s) information(s) relative(s) au développement du contenu souhaiteriez-vous voir dans un guideline?

	Inutile (1)	Utile mais non indispensable (2)	Indispensable (3)
Le détail de la méthodologie utilisée (4)	❍	❍	❍
Le nom et les qualités des personnes ayant participé à la rédaction du guideline (5)	❍	❍	❍
Une déclaration de conflit d'intérêt des auteurs du guideline	❍	❍	❍

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F20bis Quelle(s) information(s) relative(s) à la présentation de la littérature souhaiteriez-vous voir dans un guideline?

	Inutile (1)	Utile mais non indispensable (2)	Indispensable (3)
Un aperçu de la littérature supportant les recommandations (6)	❍	❍	❍
Un résumé des recommandations (1)	❍	❍	❍
La force de la recommandation et le niveau de preuve (2)	❍	❍	❍
Les tableaux reprenant les détails des résultats de chaque étude individuelle (7)	❍	❍	❍
Les détails sur l'évaluation de la qualité des études retenues dans le guideline (8)	❍	❍	❍

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F20ter Quelle(s) information(s) relative(s) à la contextualisation et à la délibération souhaiteriez-vous voir dans un guideline?

	Inutile (1)	Utile mais non indispensable (2)	Indispensable (3)
Une discussion sur les bénéfices et les désavantages des recommandations (9)	❍	❍	❍
Une discussion sur les aspects économiques (10)	❍	❍	❍
Une discussion sur les préférences des patients (11)	❍	❍	❍
Un plan détaillé pour la mise en œuvre des recommandations sur le terrain (12)	❍	❍	❍

Answer If Connaissiez-vous – avant cette étude – les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Connaissiez-vous – avant cette étude – les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F21 Quel(s) outil(s) vous semble(nt) utile(s) lors de l'utilisation d'un guideline?

	Inutile (1)	Utile mais non indispensable (2)	Indispensable (3)
Un arbre de décision clinique (1)	❍	❍	❍
Des outils d'aide à la décision pour les professionnels de santé (calculateur, évaluateur de risques, ...) (2)	❍	❍	❍
Des outils d'aide à la communication entre le soignant et le patient (3)	❍	❍	❍
Une brochure de vulgarisation des recommandations pour les patients (4)	❍	❍	❍
Des formations en ligne sur l'utilisation du guideline (vidéos expliquant les conclusions, population cible, ...) (6)	❍	❍	❍
Un point central où l'on peut retrouver tous les guidelines de qualité (7)	❍	❍	❍

Answer If Avant cette étude, connaissiez-vous les guidelines? Je connaissais le concept et savais plus ou moins ce qu'était un guideline. Is Selected Or Avant cette étude, connaissiez-vous les guidelines? Je savais déjà ce que sont les guidelines. Is Selected

F22 Avez-vous encore des suggestions pour l'amélioration des guidelines, des remarques ou des réflexions qui n'ont pas été abordées dans le questionnaire?

F23 Etes-vous:

- ❍ Un homme (1)
- ❍ Une femme (2)

F24 Quel est votre code postal?

F25 Vous êtes à la fin du questionnaire.

Au nom du KCE, nous vous remercions chaleureusement pour votre collaboration à cette enquête!

Enfin, si vous le souhaitez, vous pouvez introduire votre adresse e-mail (veuillez cocher):

- o Pour recevoir des informations relatives aux publications du KCE
- o Pour être tiré au sort afin de gagner, au choix, une Smart Watch ou un repas gastronomique

Vos coordonnées ne seront pas utilisées dans le cadre du traitement des résultats ou à des fins commerciales

E-mail :

APPENDIX 6. DETAILED RESULTS OF HEALTH PROFESSIONAL SURVEY

Appendix 6.1. General characteristics of respondents

Appendix 6.1.1. Workplace

General practitioners

Multiple answers were allowed

Table 33 – GPs' workplace (n=589)

Workplace	n	(%)
Hospitals	15	(2.6)
a. Teaching hospitals	8	(1.4)
b. Other hospitals	7	(1.2)
Private practice	302	(51.3)
Group practice	286	(48.6)
Psychiatric care	9	(1.5)
Home care	16	(2.7)
ONE / K &G	47	(8.0)
Teaching and training	31	(5.3)
Rest homes	26	(4.4)
Disability sector	15	(2.5)

Specialists

Multiple answers were allowed

Table 34 – Specialists' workplace (n=292)

Workplace	n	(%)
Hospitals		
• Teaching hospitals	146	(50.0)
• Other hospitals	130	(44.5)
Private practice	46	(15.8)
Group practice	16	(5.5)
Psychiatric care	3	(1.0)
ONE / K &G	1	(0.3)
Teaching and training	12	(4.1)
Rehabilitation centre	14	(4.8)
Disability sector	2	(0.7)

Physicians in training

Multiple answers were allowed

Table 35 – Physicians in training's workplace (n=188)

Workplace	n	(%)
Hospitals		
• Teaching hospitals	69	(35.8)
• Other hospitals	55	(28.5)
Private practice	15	(7.8)
Group practice	72	(37.3)
Home care	1	(0.5)
ONE / K &G	7	(3.6)
Teaching and training	5	(2.6)
Disability sector	1	(0.5)

Nurses

Multiple answers were allowed

Table 36 – Nurses' workplace (n=642)

Workplace	n	(%)
Hospitals		
• Teaching hospitals	95	(14.8)
• Other hospitals	228	(35.5)
Private practice	62	(9.7)
Group practice	16	(2.5)
Psychiatric care	34	(5.3)
Home care	48	(7.5)
School or school health centre	5	(0.8)
ONE / K &G	0	
Teaching and training	66	(10.3)
Rest homes	116	(18.1)
Rehabilitation centre	9	(1.4)
Disability sector	5	(0.8)

Midwives

Multiple answers were allowed

Table 37 – Midwives' workplace (n=340)

Workplace	n	(%)
Hospitals*	224	(65.9)
• Teaching hospitals	74	(21.8)
• Other hospitals	155	(45.6)
Private practice	100	(29.4)
Group practice	28	(8.2)
Home care	101	(29.7)
ONE / K &G	7	(2.1)
Teaching and training	50	(14.7)

** Some midwives may work in multiple types of hospitals*

Physiotherapists

Multiple answers were allowed

Table 38 – Physiotherapists' workplace (n=383)

Workplace	n	(%)
Hospitals		
• Teaching hospitals	21	(5.5)
• Other hospitals	28	(7.3)
Private practice	241	(62.9)
Group practice	68	(17.8)
Psychiatric care	3	(0.8)
Home care	27	(7.0)
Teaching and training	19	(5.0)
Rest homes	99	(25.8)
Rehabilitation centre	16	(4.2)
Disability sector	11	(2.9)

Appendix 6.2. Reasons for non-use of guidelines

GPs (non-users - n=82)

Reasons for non-use of guideline	n
Hospital protocol is preferred to guideline use	2
Experience of colleagues or supervisors is preferred to guideline use	16
Own field experience is perceived as more important than guideline use	39
I keep abreast of evidence via congress or medical literature	30
I have not any confidence in guidelines	1
I do not know which guidelines are reliable	18
I do not know where to find guidelines	20
I do not have time enough to use guidelines	36
There are too many guidelines	15
Guidelines contradict each other	14
Situations described in guidelines do not fit with situations occurring in my practice	35
Recommendations provided in guidelines are vague or incomprehensible	6

Specialists (non-users - n=34)

Reasons for non-use of guideline	n
Hospital protocol is preferred to guideline use	12
Experience of colleagues or supervisors is preferred to guideline use	4
Own field experience is perceived as more important than guideline use	8
I keep abreast of evidence via congress or medical literature	18
I do not see the value in following guidelines	1
I do not know which guidelines are reliable	5
I do not know where to find guidelines	5
I do not have time enough to use guidelines	2
There are too many guidelines	6
Guidelines contradict each other	4
Situations described in guidelines do not fit with situations occurring in my practice	8
Recommendations provided in guidelines are vague or incomprehensible	1

Physicians in training (non-users - n= 12)

Reasons for non-use of guideline	n
Hospital protocol is preferred to guideline use	6
Experience of colleagues or supervisors is preferred to guideline use	7
I keep abreast of evidence via congress or medical literature	1
I do not know which guidelines are reliable	5
I do not know where to find guidelines	8
I do not have time enough to use guidelines	1
Situations described in guidelines do not fit with situations occurring in my practice	1

Nurses (non-users - n= 148)

Reasons for non or infrequent use of guideline	n
Hospital protocol is preferred to guideline use	91
Experience of colleagues or supervisors is preferred to guideline use	28
Own field experience is perceived as more important than guideline use	19
I keep abreast of evidence via congress or medical literature	5
I do not see the value in following guidelines	1
I do not know which guidelines are reliable	14
I do not know where to find guidelines	44
I do not have time enough to use guidelines	23
There are too many guidelines	10
Guidelines contradict each other	9
Situations described in guidelines do not fit with situations occurring in my practice	28
Recommendations provided in guidelines are vague or incomprehensible	13

Midwives (non-users - n= 109)

Reasons for non-use of guideline	n
Hospital protocol is preferred to guideline use	71
Experience of colleagues or supervisors is preferred to guideline use	18
Own field experience is perceived as more important than guideline use	8
I keep abreast of evidence via congress or medical literature	31
I do not see the value in following guidelines	0
I do not trust guidelines	1
I do not know which guidelines are reliable	13
I do not know where to find guidelines	25
I do not have time enough to use guidelines	14
There are too many guidelines	6
Guidelines contradict each other	4
Situations described in guidelines do not fit with situations occurring in my practice	11
Recommendations provided in guidelines are vague or incomprehensible	4

Physiotherapists (n= 63)

Reasons for non-use of guideline	n
Hospital protocol is preferred to guideline use	14
Experience of colleagues or supervisors is preferred to guideline use	11
Own field experience is perceived as more important than guideline use	20
I keep abreast of evidence via congress or medical literature	33
I do not see the value in following guidelines	2
I do not trust in guidelines	4
I do not know which guidelines are reliable	11
I do not know where to find guidelines	16
I do not have time enough to use guidelines	7
There are too many guidelines	3
Guidelines contradict each other	7
Situations described in guidelines do not fit with situations occurring in my practice	18
Recommendations provided in guidelines are vague or incomprehensible	8

Appendix 6.3. Source of information to answer a question related to the daily practice

General practitioners (n=589)

Source of information to answer a question related to the daily practice	n	(%)
Colleagues	385	65
Paper or digital documentation available at work (protocols or clinical pathway)	316	54
Common search engine (Google, Google scholar, Bing…)	215	37
Website of my professional organisation	183	31
EBMPracticeNet	235	40
CEBAM Digital Library for Health (CDLH)	181	31
KCE website	81	14
GLEM/LOK	191	32
Books	22	4
EBMPracticeNet (Domus medica, SSMG, BCFI/CBIP, BAPACOP, Minerva, Farmaka)	25	4
External training	8	1
Website of international professional organisations	4	1
Website of international guideline developers	27	5
International literature databases	11	2
Other	11	2

Specialists (n=292)

Source of information to answer to a question related to the daily practice	n	(%)
Colleagues	198	68
Paper or digital documentation available at work (protocols or clinical pathway)	180	62
Common search engine (Google, Google scholar, Bing…)	102	35
Website of my professional organisation	120	41
EBMPracticeNet	28	10
CEBAM Digital Library for Health (CDLH)	46	16
KCE website	36	12
GLEM/LOK	60	21
Books	15	5
External training	2	1
Website of international professional organisations	17	6
Website of international guideline developers	33	11
International literature databases	61	21
Other	3	1

Physicians in training (n=193)

Source of information to answer to a question related to the daily practice	n	(%)
Colleagues	158	82
Paper or digital documentation available at work (protocols or clinical pathway)	131	68
Common search engine (Google, Google scholar, Bing…)	90	47
Website of my professional organisation	62	32
EBMPracticeNet	77	40
CEBAM Digital Library for Health (CDLH)	61	32
KCE website	20	10
GLEM/LOK	8	4
Books	1	1
Website of international professional organisation	4	2
Website of international guideline developers	42	22
International literature databases	21	11
Other	1	1

Nurses (n=642)

Source of information to answer a question related to the daily practice	n	(%)
Colleagues	396	62
Paper or digital documentation available at work (protocols or clinical pathway)	404	63
Common search engine (Google, Google scholar, Bing…)	278	43
Website of my professional organisation	231	36
EBMPracticeNet	66	10
CEBAM Digital Library for Health (CDLH)	87	14
KCE website	96	15
Books	6	1
External training	2	0
Website of international guideline developers	12	2
International literature databases	22	3
Other	14	2

Midwives (n=340)

Source of information to answer a question related to the daily practice	n	(%)
Colleagues	269	79
Paper or digital documentation available at work (protocols or clinical pathway)	215	63
Common search engine (Google, Google scholar, Bing…)	70	21
Website of my professional organisation	132	39
EBMPracticeNet	32	9
CEBAM Digital Library for Health (CDLH)	58	17
KCE website	148	44
Books	7	2
External training	4	1
Website of international professional organisations	2	1
Website of international guideline developers	5	1
International literature databases	12	4
Other	4	1

Physiotherapists (n=383)

Source of information to answer a question related to the daily practice	n	(%)
Colleagues	234	61
Paper or digital documentation available at work (protocols or clinical pathway)	166	43
Common search engine (Google, Google scholar, Bing…)	240	63
Website of my professional organisation	115	30
EBMPracticeNet	49	13
CEBAM Digital Library for Health (CDLH)	59	15
KCE website	1	0
Books	1	0
EBMPracticeNet partners (Domus medica, SSMG, BCFI/CBIP, BAPACOP, Minerva, Farmaka)	1	0
External training	3	1
Website of international professional organisations	3	1
Website of international guideline developers	6	2
International literature databases	14	4
Other	1	0

Appendix 6.4. Sources of guidelines

General practitioners (n=452)

Method to search guidelines	n	(%)
Colleagues	186	41
KCE website	84	19
Textbooks	153	34
Peer reviewed scientific literature	112	25
Common search engine (Google, Google scholar, Bing…)	208	46
Website of my professional organisation	164	36
Online chat group	18	4
Electronic patient file	108	24
Specialised press	155	34
Website of guideline developer agencies	120	37
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH),…	265	59
Books (Professional papers, Codex, Compendium, Folia, Thesis, papers, scientific research, grey literature…)	2	0
External training	8	2
International literature databases	6	1
Other	4	1

Specialists (227)

Method to search guidelines	n	(%)
Colleagues	108	48
KCE website	40	18
Textbooks	70	31
Peer reviewed scientific literature	168	74
Common search engine (Google, Google scholar, Bing…)	110	48
Website of my professional organisation	105	46
Online chat group	5	2
Electronic patient file	3	1
Specialised press	89	39
Website of guideline developers	64	28
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH) …	69	30
Website of international guideline developers	17	7
International literature databases	12	5
Other	2	1

Physicians in training (n=152)

Method to search guidelines	n	(%)
Colleagues	90	59
KCE website	18	12
Textbooks	60	39
Peer reviewed scientific literature	53	35
Common search engine (Google, Google scholar, Bing…)	72	47
Website of my professional organisation	47	31
Electronic patient file	18	12
Specialised press	46	30
Website of guideline developers	55	36
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH) …	91	60
Website of international guideline developers	6	4
International literature databases	5	3

Nurses (n=333)

Method to search guidelines	n	(%)
Colleagues	187	56
KCE website	93	28
Textbooks	151	45
Peer reviewed scientific literature	153	46
Common search engine (Google, Google scholar, Bing…)	214	64
Website of my professional organisation	195	59
Online chat group	22	7
Electronic patient file	25	8
Specialised press	148	44
Website of guideline developers	82	25
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH) …	133	40
International literature databases	6	2
Website of professional organisation	1	0
Other	9	3

Midwives (n=198)

Method to search guidelines	n	(%)
Colleagues	113	57
KCE website	136	69
Textbooks	83	42
Peer reviewed scientific literature	53	27
Common search engine (Google, Google scholar, Bing…)	72	36
Website of my professional organisation	111	56
Online chat group	15	8
Electronic patient file	7	4
Specialised press	60	30
Website of guideline developers	29	15
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH) …	75	38
Website of international guideline developers	5	3
International literature databases	3	2
Other	3	2

Physiotherapists (n=151)

Method to search guidelines	n	(%)
Colleagues	84	56
KCE website	22	15
Textbooks	61	40
Peer reviewed scientific literature	58	38
Common search engine (Google, Google scholar, Bing…)	97	64
Website of my professional organisation	59	39
Online chat group	11	7
Electronic patient file	7	5
Specialised press	69	46
Website of guideline developers	47	31
Databases such as EBMPracticeNet, CEBAM Digital Library for Health (CDLH) …	60	40
Website of international guideline developers	2	1
International literature databases	2	1
Other	2	1

Appendix 6.5. Information channel

General practitioners (n=521)

Information channel	n	(%)
Colleagues	73	29
GLEM/LOK	108	43
Professional organisations	120	48
Social Media	17	7
Online communication	62	25
Mailing	128	51
Evidence alerts	32	13
Online chat group	5	2
Lifelong training	114	46
Symposiums, congress, conference	119	48
Specialised press	146	59
Medical sale representatives	42	17
Books	2	1
EBMPracticeNet partners (Domus medica, SSMG, BCFI/CBIP, Minerva, Farmaka)	9	4
Website of international guideline developers	2	1
Other	4	2

Specialists (n=257)

Information channel	n	(%)
Colleagues	42	33
GLEM/LOK	39	31
Professional organisations	68	54
Social Media	11	9
Online communication	45	35
Mailing	62	49
Evidence alerts	26	20
Online chat group	3	2
Lifelong training	53	42
Symposiums, congress, conference	96	76
Specialised press	76	60
Medical delegates	26	20
EBMPracticeNet partners (Domus medica, SSMG, BCFI/CBIP, Minerva, Farmaka)	1	1
Website of international guideline developers	2	2
International literature database	1	1
International professional organisation	2	2
Other	2	2

Physicians in training (n=43)

Information channel	n	(%)
Colleagues	22	51
GLEM/LOK	6	14
Professional organisations	13	30
Social Media	6	14
Online communication	7	16
Mailing	34	79
Evidence alerts	5	12
Lifelong training	10	23
Symposiums, congress, conference	19	44
Specialised press	20	47
Medical sale representatives	11	26
EBMPracticeNet partners (Domus medica, SSMG, BCFI/CBIP, Minerva, Farmaka)	2	5
Website of international guideline developers	1	2
Other	1	2

Nurses (n=98)

Information channel	n	(%)
Colleagues	39	40
Professional organisations	69	70
Social Media	26	27
Online communication	30	31
Mailing	63	64
Evidence alerts	20	20
Online chat group	7	7
Lifelong training	28	29
Symposiums, congress, conference	73	74
Specialised press	55	56
Medical file	11	11
International professional organisation	1	1
Other	2	2

Midwives (n=58)

Information channel	n	(%)
Colleagues	29	50
Professional organisations	47	81
Social Media	8	14
Online communication	9	16
Mailing	29	50
Evidence alerts	5	9
Online chat group	5	9
Lifelong training	28	48
Symposiums, congress, conference	33	57
Specialised press	23	40
Medical file	3	5

Physiotherapists (n=36)

Information channel	n	(%)
Colleagues	8	22
Professional organisations	22	61
Social Media	6	17
Online communication	16	44
Mailing	22	61
Evidence alerts	4	11
Online chat group	2	6
Lifelong training	9	25
Symposiums, congress, conference	20	56
Specialised press	16	44
Books	1	3
Other	1	3

Appendix 6.6. Other barriers and drivers for guideline usage

General practitioners (n=505)

Other barriers	n
Access to the guideline websites (security, password,…) before to enter to the website	9
Applicability of foreign recommendation	1
Preference for summary of essential and then deeper reading when needed	1
Guideline must be adapted to the specificities of the patient	1
Difficulty to explain to the patient that done nothing is the best treatment option, conflict between what patient want and what guideline recommends	2
Overall accessibility to guidelines (time to find a guideline, format pdf/html,…)	11
Laborious accessibility through medical file	1
For rapid response, brief overall guidelines with sources and level of evidence provided as added reading	1
Usage of non-defined abbreviations	2
No independent label quality	1
When the guideline is too developed and no summary option available	1
No link with the daily practice (clinic, diagnosis, reimbursement in Belgium, molecule not available in Belgium…)	10
Paying access	3
Do not take into account the specificity of my patient (i.e. comorbidities)	7
Guideline must be short and clear	1
Guidelines do not fit to the GP practice (sometimes too theoretical)	5
Too many information channels, need to have a central point of access	2
Guideline size (need to be summarised)	17
Guideline lay-out	2
Poor quality of the translation (in the EBMPracticeNet guidelines)	2
Too complex language	2
Scientific and editorial independency is crucial for EBM (KCE is under control of politicians)	1
No time enough to read guidelines (especially during the patient consultation)	4
No time enough to find the (more appropriated) guidelines	3
Credibility of guidelines (only expert opinion, sponsored by firms)	3
No answer to my specific question	3
Too many guidelines	3
Too frequent changes in guidelines	1
No enough guidelines for rare disease	1
Need more quality (i.e. no level of evidence, no evidence or sources reported)	3
Need more independency	2
Guidelines are more often written for budgetary reasons	3
No information about the publication of new guidelines	1
Written in Dutch	1
Guidelines must be written by GP active in the field or European organisations	2
Out-dated guidelines (i.e. Domus Medica)	5
Too many details on search methods to find and details regarding methods of primary studies and less summary of recommendations and literature findings	5
Too vague recommendations, must be more concrete (Farmaka do that well, no dosage provided)	3
Too few guidelines for GPs (i.e. limited number of KCE guidelines)	2
Too few tools to implement guidelines	1
No information about the responsibility regarding choices made in guideline	1

Other drivers	n
Reputation of authors or organisation that made the guideline	1
Direct access to guideline through the medical file	11
Decision three from symptoms to diagnosis	1
Clear recommendations regarding what to do and what do not do	3
Rapid and easy access to guidelines	12
Informative feedback about adherence to guideline / or accreditations points	2
Easily applicable in daily practice	4
Clear language, concrete and practical recommendations	7
No too much theoretical sections	1
Decrease administrative tasks to give more time to guideline reading	1
One point of access (allowing to add comments and observations about guidelines, and contact persons for more information, allowing research based on specificities of patients, with performant search engine)	4
Summarized guidelines (with option to read more information if needed) / short summary	14
Function to allow diffusion of relevant guidelines	1
Guidelines focused on situations seen in GP practice	2
Source of guideline must be clearly mentioned	2
Guidelines must be didactic (i.e. NHG)	1
Guidelines must be easily searchable with subtitles or specific points for GP, good structured guidelines	3
Schema to support guideline clarity	3
In French or translated by a native French-speaker	2
Updated or recent published	8
No too much password	1
Guidelines easy to use, to read	2
Guidelines made by GP active in the field and not expert disconnected of the practice	1
Too many guidelines	1
Good methodology (level of evidence reported, evidence sources)	1
Guideline focused on GP, guidelines responding to a real need of EBM for GP	3
Conflicting guidelines for GP and specialists	1
Independency	1
International validation of guidelines	1
Guidelines adapted to the Belgian context (or in the Flemish context)	1
Lay-out (allowing to highlight the level of evidence / quality of evidence with colour code, facilitators for navigation in the document …)	11
Free access	1
Grouping of available guidelines on the same topic	1
Quality label given by an independent organisation	1
Guidelines do not fit to my patient	1
Presentation of guideline during livelong training, GLEM/LOK, conference	1
Guidelines developed by professional organisation	1
Easy to use	1
To be informed of the guideline publication via GLEM/LOK, SSMG	2
Guideline focused on one clinical question	1
Rapid search engine, rapid navigation in website	2
A central website to find the good sources of guidelines	1
Guidelines from sources explain during the medical training (Domus medica, NHG)	1
One click for multiple sources, one search engine to access to quality guidelines (validated, guaranty)	3
Including information for patients	1
Taking into account of the economic burden to the society	1

Time to consult guidelines	1
No obligation to follow guidelines, must be adapted to the specificities of the patient	1
Link with international medical journals	1
Guidelines published by trusted organisation	1
Guideline must be evidence based but also based on ethics	1
Patient centered guideline	1
Guidelines with decision tools (patient leaflet, flowchart, short summary…)	1

Specialists (n=251)

Other barriers	n
Limited access in and outside hospitals, limited availability	3
Friendly lay-out	1
No Belgian specific guideline in my specialisation, not enough Belgian guidelines leading to use international guidelines	4
Guidelines are not evidence based but based on KCE point-of-view or influenced by industries	2
Guidelines are too complex	2
Lack of practicality	1
International guidelines are not consistent with Belgian reimbursement criteria	1
Discrepancy between (international) guidelines	2
Guidelines must be easy to find in one website	2
Guidelines are too general and do not fit to my patients (or do not take individuals into account)	5
(KCE) guidelines are based on savings and not enough objective	4
I hate guidelines, I have enough experience	1
Training in EBM was not enough developed	1
Guidelines must be quickly available	1
Guidelines must be developed at international level	1
Lack of guideline overview or search functions	3
Wordiness used in guidelines	2
Unavailability of recommended interventions	1
No trust in the authors of guidelines (group of friends)	1
Guidelines do not take co-morbidities into account	1
Guidelines are too long	6
Guidelines are not relevant	1
What about medical and legal responsibilities if physicians do not follow guideline recommendations	1
If too much updates, we cannot follow	1
Guidelines are not attractive	1
No time enough to read or too find guidelines (too much administrative tasks)	2

Other drivers	n
Limited adaptation to geriatric patients	1
Need to have App	1
Structured guidelines, lay-out with navigation system	4
Standardised guidelines	2
Regular updates	3
To have figures about adherence to the proposed guideline	1
Summarized guidelines	4
Comments to explain the evidence that support the recommendations proposed in the guideline	2
Guidelines must covered large medical issue	1
Information regarding guideline during the national (or international) congress	2
Guidelines may allow to diminish useless and inappropriate investigations	1
Easy to use,	1

Easy to use with good search function on one website or App	3
Guidelines must score high in AGREE assessment	1
Guidelines must be multidisciplinary	1
Guidelines must be adapted to technics and drugs available and reimbursed in Belgium	3
Guidelines integrated in the electronic patient file	1
Guidelines regarding rare diseases or conditions	1
Authors of guidelines must be representative of Belgian universities and care networks	1
Guidelines allow a better care, selection of additional tests, quality of care, better prescription	2
Guidelines validated by scientific societies	1
Guidelines must be focused on practice	3
Tools such as decision tree, comparative tables	2
Access to guideline must be affordable	1
Financial incentive to use guidelines	1

Physicians in training (n=164)

Other barriers	n
Guidelines are too long	9
Foreign guidelines	2
Availability of guidelines, difficult to find, too much access points	7
Cost prise to access guideline	4
Not use by my mentor	1
Not easy to use, no friendly use/lay-out, unstructured format, no overview	8
Outdated (i.e Domus ones)	3
Too much details on method of included studies, too much information about background	2
Not performant search engine	1
Guidelines do not fit (sometimes) with the practice	1
Wordiness used in guidelines	1
Guidelines are too specialised	1
Too many guidelines, too many sources	2

Other drivers	n
Summary of guideline, short guideline	7
Summary of recommendations	1
References of primary studies	3
Concrete guideline and conclusions, clear guidelines	3
Clear lay-out	5
Easy and rapid to find guidelines	3
European guidelines	1
Structured guidelines, lay-out with navigation system allowing to access to summary or full guidelines or to access to specific information	2
Best updated scientific point of view, updated guidelines	2
Easy to use	1
Key messages	2
Clear instruction for first choice and treatment options	1
Paper version sent at home	1
One point of access to retrieve guidelines	1

Nurses (n=410)

Other barriers	n
No free access to guidelines	10
Do not fit with my practice	3
Other languages than English – French or Dutch	1
No time enough to research guidelines (during the working hours)	12
Do not fit with the Belgian context	1
Nothing dedicated to the German speaking community or translated in German	2
Guidelines are too complex	4
Lay-out that does not allow easy reading	1
Guidelines availability – not easy access	8
Some topics are not or too less covered in guidelines	1
Guidelines are too much focused on hospital practice	2
Quality of available guideline	1
Need to know specific website for nurses – I do not know where to find guideline	2
Guidelines are too long	5
No motivation to use guidelines	2
No promotion to use guidelines in the practice	1
No information about guidelines	1
Written in French	1
No clear message	1
Fear of change	2
Summary of guidelines are needed	1
Usage of other language jargon (French or English)	1
Outdated guidelines	1

Other drivers	n
Guidelines integrated in electronic nursing file or electronic patient file	3
Guidelines adapted to context, sector or professional groups	1
Up to date guidelines	1
Access to guidelines	3
Lay-out allowing rapid reading (i.e. diagrams)	1
Lay-out allowing easy consultation (from summary of recommendations to more details sections)	1
Enhance quality culture in the practice	1
Ask to much effort	1
No motivation to use guidelines	3
No promotion to use guidelines in the practice	1
No information about guidelines	1
Written in French	1
No clear message	1
Fear of change	2
Summary of guidelines are needed	4
Usage of other language jargon (French or English)	1
Outdated guidelines	1
Availability of guidelines	1
Rapid access with well design search engine	2
Well-structured guidelines	1
Simple electronic access to guidelines	1
Clear formulation	4
Systematic overview	2
Ready to use format for training purposes	1
Training to learn how to use guidelines (during the nursing training)	2

Free access	3
Focused guidelines	1
Too many guidelines	1
Short guidelines	2
Adapted to the Belgian context	1
Incentive to develop EBP, promote the usage in care institutions	4
Quality label	1
Enhance the communication about guidelines with a central point to retrieved information	1
Enhance dissemination of guidelines – pop-up when new guidelines are available	5
Multidisciplinary guidelines	3
More guidelines dedicated to primary care	1
Guidelines for patients	1
Easy to use format	2
Information about the regions that use a guideline (in Belgium and at international level)	1
Targeted population must be mentioned (i.e. premature, children or adults)	1
Translation in German	1

Midwives (n=259)

Other barriers	n
No easy to find response to a specific question	1
Guidelines are developed for hospital settings and not focused on physiological situation (primary care)	1
Guidelines are too long	6
No information about validation by CEBAM, quality label	1
No enough promotion for guidelines	1
Need a summarized format of guidelines	3
Limited access	3
Guidelines are too less based on evidence	1
Guidelines are not adapted to the Belgian context	2
No information about validators	1
Conflict instructions between physicians (superior) and guidelines	1
Variability of practice in the field and professional resistance to change	4
Need more information about publication of guidelines and their update	2
No enough time to consult guidelines	4
Protocols are preferred, conflict between protocols and guidelines	2
Medical vocabulary, not easy to understand	1
No easy to find guidelines	2
No free access	1
Every patients are different and do not fit with guidelines (general role), guideline are too broad	2

Other drivers	n
Choice of professionals that participate to guideline development	1
Date of last update, regularly updated	3
Pop-up alert	2
Enhance availability	2
Must be written by clinicians and not bureaucrats	1
Guidelines must be clear and short	5
Easy access	4
Guidelines must be interactive	1
Complete version are not easy to use	1
Guidelines must be adapted to the daily practice	1
Not enough time	1
Guidelines must provide evidence for my practice	1
Publication of new guidelines must be presented in conference	2
Diagram presentation	1
Summarized guidelines with links for more details	1
Recommendations must be written in French and Dutch because English is not enough used by my colleagues	1
Incentive to enhance the trust of gynaecologists in guidelines, guidelines must be used by gynaecologists	2
Guidelines must be focused on our practice and directly usable	1

Physiotherapists (n=181)

Other barriers	n
Recommendations do not fit the Belgian context or available infrastructures	2
Paying access	3
Complexity to search and find the right information	1
Guidelines are not always up-to-date	1
Guidelines must be adapted to the primary care	2
Not enough time	1
Guideline are too long	2
Not enough promotion for guidelines	1
Guidelines must be more highlighted during the training	1
Not easy to find with keywords	1
Not enough specific	1
Data analysis and quality of evidence are not clear, guideline are too complex	2
Guidelines do not fit with my practice	1
Need to have a friendly access and search engine	1
Not enough guidelines for physiotherapists	1
Low quality guidelines in comparison with those for physicians	1
Few high quality evidence in physiotherapy (few RCTs)	2
Low quality of the translation	1
Need for high quality validation	1
There are too many guidelines (from unclear sources)	2
Guideline are too broad and do not take into account the specificities of patients	1
Too much online	1
Obligation to follow guidelines	1

Other drivers	n
Short summary	4
Usable in the practice	2
Guidelines must be clear	1
Rapid and easy access to a summary of a complete guideline	1
Financial incentive to read guidelines	1
Guidelines linked with the patient file	1
Standardized format	1
Clear definition of the target population	1
Intervision	1
Short, succinct and clear information	1
To too much summarized	1
Level of evidence and mention of the journal	1
Guidelines must be adapted to the patient age	1
Guidelines must be available on pubmed	1
Priorities must be highlighted	1
Guidelines must be clearly structured	2
Test to checked if practitioners know the best practice (i.e. NEJM test)	1