Research White Paper

EPC Methods: AHRQ End-User Perspectives of Rapid Reviews



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Prepared for:

Agency for Healthcare Research and Quality U.S. Department of Health and Human Services 5600 Fishers Lane Rockville, MD 20857 www.ahrq.gov

Contract No.: 290-2012-00004-C

Prepared by:

Scientific Resource Center Portland, OR

Investigators:

Lisa Hartling, B.Sc.P.T., M.Sc., Ph.D.

Jeanne-Marie Guise, M.D., M.P.H.

Susanne Hempel, Ph.D.

Robin Featherstone, M.L.I.S.

Matthew D. Mitchell, Ph.D.

Makalapua L. Motu'apuaka, B.S.

Karen A. Robinson, Ph.D.

Karen Schoelles, M.D., S.M., F.A.C.P.

Annette Totten, Ph.D.

Evelyn Whitlock, M.D., M.P.H.

Timothy Wilt, M.D.

Johanna Anderson, M.P.H.

Elise Berliner, Ph.D.

Aysegul Gozu, M.D., M.P.H.

Elisabeth Kato, M.D., M.R.P.

Robin Paynter, M.L.I.S.

Craig A. Umscheid, M.D., M.S.C.E.

AHRQ Publication No. 16-EHC014-EF April 2016

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None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

This research was funded through contracts from the Agency for Healthcare Research and Quality to the following Evidence-based Practice Centers: University of Alberta (290-2012-00013-I), Blue Cross Blue Shield (290-2012-00010-I), ECRI- Penn (290-2012-00011-I), Kaiser (290-2012-00015-I), The Johns Hopkins University (290-2012-00007-I), and the Scientific Resource Center for the EPC Program (290-2012-00004-C).

The information in this report is intended to help health care decisionmakers—patients and clinicians, health system leaders, and policy makers, among others—make well-informed decisions and thereby improve the quality of health care services. This report is not intended to be a substitute for the application of clinical judgment. Anyone who makes decisions concerning the provision of clinical care should consider this report in the same way as any medical reference and in conjunction with all other pertinent information (i.e., in the context of available resources and circumstances presented by individual patients).

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Suggested citation:Hartling L, Guise JM, Hempel S, Featherstone R, Mitchell MD, Motu'apuaka ML, Robinson KA, Schoelles K, Totten A, Whitlock E, Wilt T, Anderson J, Berliner E, Gozu A, Kato E,Paynter R, Umscheid CA. EPC Methods: AHRQ End User Perspectives of Rapid Reviews. Research White Paper. (Prepared by the Scientific Resource Center under Contract No. 290-2012-00004-C.) AHRQ Publication No.16-EHC014-EF. Rockville, MD: Agency for Healthcare Research and Quality; April 2016. www.effectivehealthcare.ahrq.gov/reports/final.cfm.

Preface

The Agency for Healthcare Research and Quality (AHRQ), through its Evidence-based Practice Centers (EPCs), sponsors the development of evidence reports and technology assessments to assist public- and private-sector organizations in their efforts to improve the quality of health care in the United States. The reports and assessments provide organizations with comprehensive, science-based information on common, costly medical conditions and new health care technologies and strategies. The EPCs systematically review the relevant scientific literature on topics assigned to them by AHRQ and conduct additional analyses when appropriate prior to developing their reports and assessments.

To improve the scientific rigor of these evidence reports, AHRQ supports empiric research by the EPCs to help understand or improve complex methodologic issues in systematic reviews. These methods research projects are intended to contribute to the research base in and be used to improve the science of systematic reviews. They are not intended to be guidance to the EPC program, although they may be considered by EPCs along with other scientific research when determining EPC program methods guidance.

AHRQ expects that the EPC evidence reports and technology assessments will inform individual health plans, providers, and purchasers and the health care system as a whole by providing important information to help improve health care quality. The reports undergo peer review prior to their release as a final report.

We welcome comments on this Methods Research Project. They may be sent by mail to the Task Order Officer named below at: Agency for Healthcare Research and Quality, 5600 Fishers Lane Rockville, MD 20857, or by email to epc@ahrq.hhs.gov.

Sharon B. Arnold , Ph.D. Acting Director Agency for Healthcare Research and Quality

Stephanie Chang, M.D., M.P.H.
Director
Evidence-based Practice Center Program
Center for Evidence and Practice Improvement
Agency for Healthcare Research and Quality

Arlene S. Bierman, M.D., M.S.
Director
Center for Evidence and Practice
Improvement
Agency for Healthcare Research and Quality

Elisabeth Kato, M.D. M.R.P.
Task Order Officer
Evidence-based Practice Center Program
Center for Evidence and Practice
Improvement
Agency for Healthcare Research and Quality

Key Informants

In conducting this research, the EPC consulted several Key Informants who represent the end-users of research. The EPC sought perspectives of the Key Informants on rapid products. Key Informants were not involved in the analysis of the evidence or the writing of the report. Therefore, in the end, study questions, design, methodological approaches, and/or conclusions do not necessarily represent the views of individual Key Informants.

Key Informants must disclose any financial conflicts of interest greater than \$10,000 and any other relevant business or professional conflicts of interest. Because of their role as end-users, individuals with potential conflicts may be retained. The TOO and the EPC work to balance, manage, or mitigate any conflicts of interest.

The names of individual Key Informants (and the organizations they represent) who participated in the research described in this report are not listed to preserve confidentiality.

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Structured Abstract

Objectives. The goal of this project was to understand end-user perspectives on three types of rapid review products: evidence inventories, rapid responses, and rapid reviews. This taxonomy of rapid products was developed in previous work conducted through the Agency for Healthcare Research and Quality's (AHRQ) Evidence-based Practice Center (EPC) Program. We sought to (1) identify critical elements in an evidence synthesis that end-users value, (2) determine impressions of rapid products, and (3) determine where/when/how end-users might use rapid review products and whether this varies by the nature of the decision being made. To ensure the findings were most relevant to AHRQ's EPC Program, we focused on decisionmakers who frequently used reviews from the AHRQ EPC Program.

Methods. Qualitative interviews were conducted with individuals (i.e., Key Informants, KIs) from U.S. organizations representing: guideline developers (n=3), health care provider organizations (n=3), research funders (n=1), and payers/health insurers (n=1). All KIs were familiar with or had used EPC reports (i.e., standard systematic reviews); some also produced (n=3) or had experience using (n=2) rapid products. We elicited perspectives on important characteristics of systematic reviews, users' perspectives on methods employed to streamline reviews, and uses of rapid review products. Two research assistants analyzed content of the transcripts, and two investigators independently reviewed all transcripts and verified themes and subthemes. All themes and subthemes were discussed with the study team.

Results. KIs identified the following as critical for a systematic review: (1) the review was from a reliable source (i.e., conducted by experienced reviewers from an established research organization); (2) the review addressed clinically relevant questions; and (3) there was a trusted relationship between the user and producer. KIs expressed strong preference for the following review methods and characteristics: strength of evidence assessments, quality rating of studies, use of evidence tables, and use of summary tables of results and conclusions. The most acceptable trade-offs to increase reviewer efficiencies were in limiting the literature search and performing single screening of abstracts and full texts for relevance. KIs reported a variety of potential uses for rapid products. In general, KIs perceived rapid products (particularly evidence inventories and rapid responses) as useful interim products to inform downstream investigation (e.g., whether to proceed with a full review or a guideline, direction for future research). Most KIs indicated that analysis/synthesis and quality/strength of evidence was important for decisionmaking. Most KIs could see a use for a rapid review, in particular for guideline development focused on narrow topics, policy decisions when a quick turn-around is needed, decisionmaking for practicing clinicians in nuanced clinical settings, and coverage decisions. Rapid responses and rapid reviews may be more relevant within specific clinical settings or health systems. Conversely, broad/national guidelines often need a traditional systematic review.

Conclusions. This work provides insight into the perspectives of AHRQ end-users on rapid review products, highlighting as important: the credibility of the review producer, relevance of

key questions, and close working relationship between the end-user and producer. This work also identified review characteristics and methods that are considered essential for decisionmaking, acceptable methodological tradeoffs, and potential uses of rapid products.

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Introduction

Background

Rapid reviews are a form of evidence synthesis that may provide more timely information for decision making compared with standard systematic reviews. Systematic reviews are defined as "a review of a clearly formulated question(s) that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review." While systematic reviews are comprehensive, they can take on average 1 to 2 years to complete^{2, 3} and involve a substantial amount of resources to produce according to current standards.⁴ While standards are endorsed by numerous groups that commission, produce, and publish systematic reviews, many of the specific steps are not supported by strong empiric evidence (e.g., extent of search, dual study selection, dual data extraction, etc.). ^{1,5} In contrast, rapid reviews "are literature reviews that use methods to accelerate or streamline traditional systematic review processes" in order to meet the needs and timelines of the end-users (e.g., "government policymakers, health care institutions, health professionals, and patient associations"). Several recent activities highlight the increasing interest in rapid reviews and their methodologies, including the Canadian Agency for Drugs and Technologies in Health (CADTH) Rapid Review Summit (https://www.cadth.ca/cadth-summitseries), Cochrane Innovations' Rapid Response Program, and registration of a rapid review methods group with The Cochrane Collaboration.

As part of this effort, in 2013 a white paper produced through the Evidence-based Practice Center (EPC) Program of the Agency for Healthcare Research and Quality (AHRQ) explored the range of products that are considered rapid. The AHRQ EPC program produces comprehensive systematic reviews, as well as other products such as Technical Briefs, Horizon Scanning, and Topic Triage documents which incorporate elements of rapid products. The white paper examined 36 different rapid products from 20 organizations worldwide and interviewed 18 producers of rapid products.⁸ A careful analysis of the 36 rapid products led to a taxonomy that allows a practical classification of these products according to the extent of synthesis (Figure 1): (1) "inventories" list what evidence is available, and other contextual information needed to make decisions, but do not synthesize the evidence or present summaries or conclusions; (2) "rapid responses" present the end-user with an answer based on the best available evidence (usually guidelines or SRs), but do not attempt to formally synthesize the evidence into conclusions; (3) "rapid reviews" perform a synthesis (qualitative and/or quantitative) to provide an answer about the direction of evidence and possibly the strength of evidence; (4) "automated approaches" use databases of extracted study elements and programming to generate metaanalyses in response to user-defined queries.

One of the key findings of the white paper was the observation, based on interviews with 18 producers of rapid reviews, that one of the biggest differences of rapid products compared with standard systematic reviews was the relationship with the end-user. The paper noted that "rapid products are often conducted to help a specific end-user make a specific decision in an identified timeframe; therefore, the reviewers need to make decisions about what they can provide in the time allowed." To further understand end-user perspectives on rapid products, we undertook the present work to understand the acceptability of different approaches to rapid products (based on our taxonomy) to end-users, as well as the context in which particular products may be useful.

Figure 1. Taxonomy of rapid products⁸

Evidence Inventory

- List what evidence is available, and often other contextual information needed for making decisions
- . Do not synthesize the evidence or present summaries or conclusions.
- Generally systematic and comprehensive; therefore, can provide a useful first step for decisions about coverage or purchase, in particular whether further research is warranted.

Rapid Response

- Evaluate the literature to present the end-user with an answer based on the best available evidence (usually guidelines or systematic reviews)
- Do not attempt to formally synthesize the evidence into a conclusion
- · More likely to describe clinicians among end-users

Rapid Review

- Perform a synthesis (qualitative, quantitative or both) to provide the end-user with a conclusive answer about the direction of evidence and possibly the strength of evidence
- Conclusion may be hedged, but it is still a synthesized statement that could be compared with a systematic review
- Generally able to meet time constraints by limiting the scope, are somewhat less comprehensive in their data sources, use fewer quality controls, and the synthesis is usually qualitative

Automated Approaches

· A new and intriguing approach to providing rapid evidence support

Purpose of This Report

The overall aim of this project was to understand perspectives on rapid products (specifically, evidence inventories, rapid responses, and rapid reviews as defined in Figure 1). Our objectives were to:

- 1. Determine what makes end-users trust and value an evidence synthesis, including (but not limited to) extent of synthesis, extent of information (e.g., level of detail), specific pieces of information (e.g., which elements are particularly useful), formatting/presentation of information, organization that produced the report (and end-user relationship with that organization), and methods used to conduct the synthesis. We were also interested in whether this varies by the nature of the decision being made.
- 2. Determine end-user impressions of different rapid products with a focus on acceptability and usability (not necessarily validity). Determine their impressions with respect to: strengths and limitations, trade-offs (what approaches could be altered to increase efficiencies, what are they willing to accept), and risks (in terms of the answer being 'wrong'; level of concern that information might be missed).
- 3. Determine where/when/how end-users might use rapid review products and whether this varies by the nature of the decision being made. Guiding questions included:
 - a. If you had a rapid product, would it be useful to you and in what context?

b. If you had a time dependent decision, what are you confident using, knowing that different products may give different answers?

Methods

General Approach

A workgroup of members from EPCs, the Scientific Resource Center (SRC), and AHRQ participated in twice monthly workgroup teleconference calls over the course of 10 months to discuss project direction and scope, assign and coordinate tasks, collect and analyze data, and discuss and edit draft documents.⁹

We undertook a qualitative study of AHRQ end-user perspectives of rapid products. Qualitative methods allow researchers to elicit perspectives from participants and identify themes. Further, qualitative interviews allow the interviewer to obtain the information sought, and, due to their open-ended nature, they also provide the opportunity for the interviewer to probe for greater depth and clarity and for the respondent to elaborate or provide examples to illustrate concepts and perspectives. ¹⁰

Key Informant Selection and Interviews

To ensure the findings were most relevant to the AHRQ EPC Program, and due to logistical constraints, we decided to focus on frequent end-users of AHRQ EPC reviews. We then identified different types of organizations that may use EPC reviews: research funders, payers/health insurers, health care provider organizations, and societies/associations (e.g., that produce guidelines). We identified 12 organizations representing these different stakeholders. We approached individuals from these organizations and invited them to participate in an interview. The invitation to participate in the interviews is in Appendix A. Prior to the interviews, each KI completed an "EPC Conflict of Interest Disclosure Form"; no disclosed conflicts precluded participation. All KIs were familiar with or had used EPC reports (i.e., traditional systematic reviews); some also had experience with rapid products.

The same workgroup member (J-MG) conducted all interviews between January and March of 2015 using a semi-structured interview guide designed to elicit a multi-faceted understanding of perceived value and uses of rapid products. Prior to the call, participants were sent the interview questions and samples of products (evidence inventory, rapid response, rapid review, and full EPC evidence report) that would be discussed. The semi-structured interviews were conducted by telephone, lasted for approximately one hour, and were attended by at least 2 additional workgroup members. All interviews were digitally recorded and transcribed verbatim. At the outset of each call, the KI was asked for their permission to have the call recorded (with the intent that recordings were for the purpose of data analysis only). Further, we asked KIs for permission to use quotes from the interviews but assured them that the quotes would not be attached to any specific individual. All KIs agreed to these conditions. We have not listed the names of the KIs or the organizations they represent in order to preserve confidentiality due to the sample size.

Interview Guide

The workgroup developed the interview guide through a review and discussion of multiple iterations. As our KIs were end-users of AHRQ reports, we were first interested in how they had used EPC reports and what they valued in the reports produced through the EPC program (e.g.,

what made the reports trustworthy or reliable, what components were most critical to informing their decisions). Next, we were interested in their impressions of the different rapid products (evidence inventory, rapid response, rapid review—see Figure 1), as well as whether they would consider any of the rapid products useful and in what context, e.g., for specific decisionmaking needs. We were particularly interested in: a) what trade-offs they would be willing to accept to increase efficiencies in the review production, and b) what risks they perceived might be incurred with new approaches (e.g., inaccurate findings, missing studies). The final interview guide appears in Appendix B.

Sample Rapid Products

From an initial list of 11 recently completed (within the past 2 to 3 years) EPC systematic reviews on topics considered to be of general interest, we selected 4 topics: venous thromboembolism, fecal DNA testing, pressure ulcers, and methicillin-resistant staphylococcus aureus. We then searched to identify rapid products on these topics through agencies we knew to produce rapid products. We found the most and broadest range of rapid products for venous thromboembolism and chose among these to represent the three rapid products to share with the KIs. The Evidence Inventory was produced by the Canadian Agency for Drugs and Technologies in Health, the Rapid Response was produced by ECRI Institute, and the Rapid Review was produced by the Penn Medicine Center for Evidence-based Practice. The full EPC systematic review on the same topic is available at: effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=1145.

Data Analysis

Transcripts were analyzed using content analysis with NVivoTM software by two research assistants with training in qualitative analyses. Two investigators with qualitative experience independently reviewed all transcripts and verified themes and subthemes. To ensure reliability of the coding structure, all themes and subthemes were reviewed with the larger multidisciplinary workgroup.

Results

A total of eight interviews were conducted with U.S. organizations representing: guideline developers (n=3), health care providers (n=3), research funder (n=1), and non-commercial payers/insurers (n=1). Six of eight KIs were clinical providers; two produced guidelines for professional organizations, two represented health systems, one was a funder, and one represented a non-commercial payer. Two KIs were non-clinical; one produced guidelines for a professional group and the other represented a health system. All KIs routinely commissioned and used systematic reviews. There was varied representation with respect to knowledge and use of rapid review products: three KIs were involved in producing rapid review products, two KIs used rapid review products, and three KIs were unaware of or had no experience using rapid review products.

Users' Perspectives on Important Characteristics of Reviews

KIs reported what they consider the most important characteristics of review products for their use; the themes that emerged are presented in Table 1 and are related to methods, source of the

review, relationship between producer and user, clinical significance, and the recency of the review. The most commonly reported review characteristics deemed critical were: (1) the review was from a reliable source, i.e., conducted by experienced reviewers from an established research organization (all KIs); (2) the review addressed clinically relevant questions (all KIs); and (3) there was a relationship between the user and producer of the review (7 of the 8 KIs; 1 KI did not discuss). KIs felt that the key questions were often the most important part of the review. If the key questions do not address what the user needs, the review is not very useful. Further, the relationship between the user and producer ensures that the review is more usable. Other important review characteristics that were noted include: addressed questions of clinical (and not just statistical) significance, was recent, and used sound methodology (all items were noted by 4 KIs and not mentioned by 4 KIs).

Table 1. Users' perspectives on important characteristics of reviews

Element	Theme	Sample Quotes [type of end-user]	
Overall Review Characteristics			
Methods	Important that sound methods are used in developing review	"adherence to good standards of evidence evaluation is really critical, so that probably matters more to me than anything" [provider]	
Source	Trust review products from reliable sources	"If it came from a place that we trust then we would have more confidence in using it than if it was just arbitrarily out there from somebody who had done it once." [guideline developer] "the source is always really important, knowing that someone is evaluating the evidence in a rigorous way, the way that we do and the way the evidence based practice centers do means a lot" [provider]	
Relationship between producer/user	Important to establish relationship with user up front	" the quality that we've had in the reviews when they have that connection up front is significantly differentI think it also helps build trust in how the evidence is being done." [guideline developer] "I think it's incredibly important for the guideline developers to be involved from day one." [guideline developer]	
Clinical significance	Reviews should include considerations of clinical importance not just statistical significance	"ultimately, the clinical aspect is important. There is sometimes a gap between the statistical significance versus what's clinically significant important." [guideline developer]	
Recency	Important that a report is recent. A gap search is sometimes done.	'We're usually hoping we find something within the last two to three years" [guideline developer] "We're certainly willing to do the bridge look search to make sure that there hasn't been something big that's come up that might adjust the estimated treatment effects" [guideline developer]	
Key questions	The framing of the question can be the most important aspect of a review It is important that the key questions address what the end-user needs, including clinical outcomes and consideration of benefits and harms Narrowing the scope of the key questions can be problematic	"the thing that I find most helpful in this approach to evidence always is the framing of the question" [provider] "we want to make sure that the questions that were addressed are what the guideline developers interested in terms of just plain old clinical outcomes" [guideline developer] "When I've used some other Rapid Reviews, when they narrow the scope they probably at least half the time completely miss the mark of the question we want answered. Keeping it a little bit broader would be something that I would not sacrifice" [payer]	

Users' Perspectives on Review Methods

Table 2 presents themes and sample quotes regarding KIs' perspectives of individual components of a review. KIs felt the following were very important: quality rating of studies (noted by 7 KIs; not mentioned by 1 KI), data tables (including characteristics of included studies) (4 KIs; not mentioned by 4 KIs), strength of evidence assessment (5 KIs; not mentioned by 3 KIs), and summary tables of results and conclusions (3 KIs; not mentioned by 5 KIs). One KI (research funder) mentioned that specific recommendations regarding future research needs were important for use in research development and future funding.

The most commonly reported acceptable trade-offs to increase efficiencies were in the literature search (all 6 KIs who mentioned literature search agreed that limits such as date or language were acceptable) and abstract and full text review (among 5 KIs who discussed this point, 4 agreed that single review was acceptable and 1 agreed depending on the expertise of the individual doing the review). The majority of KIs were willing to have shortcuts made in these areas in exchange for shorter timelines. One KI (guideline developer) elaborated and noted that these trade-offs would be acceptable in order to have something more readily available to directly inform clinical care rather than waiting for a comprehensive answer. This same KI noted the trade-off in terms of doing a single, comprehensive review versus multiple rapid products in the same amount of time.

Table 2. Users' perspectives on review methods

Element	Theme*	Sample Quotes [type of end-user]	
Specific Review Components			
Literature search	It is okay to limit the search by database, journal, year, etc. as long as it is scientifically justified	"I'd probably be more comfortable with selecting top 20 [journals]and just do the evidence review using those." [guideline developer] "I would not expect things like looking for unpublished literature." [payer] "youprobably you get 90% or 95% of the evidence with 20% to 30% of the searching" [provider]	
Abstract/full text screening	It is okay to have single review of abstracts and full text	"To me that [single review] would be acceptable." [research funder] "I think implicitly in these kinds of rapid reviewsyou're going to do a combination of looking at existing reviews so that will help catch stuff that you might otherwise miss with single review." [provider]	
Quality assessment	Some assessment of the quality of the literature is needed	"I think that [quality assessment] should be included." [payer] "it's important that we probably would want some level of comment on that [quality assessment]" [provider]	
Data tables/extraction	Evidence tables are useful	"I think the most important part of an evidence review is always going to be the evidence tables" [guideline developer] "one part that we use a lot are of course the extraction tables" [guideline developer]	
Strength of evidence	Strength of evidence is important	"That [strength of evidence grading] would be very important." [payer] "The strength of the evidence I always find valuable as well." [provider]	
Summary tables	Summary tables or ways to present the results/conclusions in an accessible format are useful	"A lot of times you'll do good summary tables, and that's probably where I would look" [payer] "The work development teams in our clinical programs are more concerned with what's the summary of the evidence." [provider]	
Future research recommendations	Future research recommendations are helpful for	"what are the future research recommendations99.9% of the systematic reviews all	

Element	Theme*	Sample Quotes [type of end-user]
	research development	concluded more research is needed, so focus on exactly
		what are they recommending." [research funder]

^{*} Comments in bold represent most acceptable trade-offs

Uses of Rapid Products

KIs reported a variety of potential uses for rapid products and standard systematic reviews (Table 3). Several KIs stated that the evidence inventory (3 KIs; guideline developers, provider organization) and rapid response (4 KIs; guideline developers, research funder, provider organization) would not be useful for their purposes, while other KIs considered evidence inventories or rapid responses useful in certain cases including for new topics, to understand the depth and/or breadth of existing evidence/available literature, for restricted local use, or for clinicians who are already familiar with the literature in a topic area. One theme that emerged is that when KIs saw utility in the rapid products, these were more often interim products (or "placeholders") to inform downstream investigation (e.g., whether to move forward with a full review or a guideline, direction for future research/funding); the rapid products were not typically useful for "end-point" decisions (especially the evidence inventory and rapid response). Moreover, some KIs commented that the level of detail available in the evidence inventory and rapid response was not sufficient for decisionmaking; most KIs indicated that analysis/synthesis and quality/strength of evidence was important to this end. Some KIs (guideline developer, provider organizations) noted that an evidence inventory and rapid response were products that the end-users could easily create on their own.

All but one KI indicated that they could see a use for a rapid review, in particular for guideline development (particularly for narrow topics), policy decisions when a quick turnaround is needed, decisionmaking in nuanced clinical settings and for practicing clinicians, and coverage decisions. Most KIs felt that standard SRs cannot be used for quick decisions, unless they already exist, in which case they may need a bridge search. Oftentimes a bridge search is needed even for recent SRs, because they take so long to complete that there is often a gap in the literature search by the time it is published. KIs noted some factors to be considered when using a rapid review including that the review needs to: a) have quality methods or be from a reliable source, and b) address the specific questions/clinical outcomes of interest. Generally, a traditional systematic review is preferred but in cases where none exists, KIs are willing to accept rapid review for shorter turnaround. Further, KIs understand that there may be limitations to rapid reviews, but they are willing to accept these for a quick turnaround. One KI (provider) noted that it is never possible to eliminate uncertainty, so it just needs to be taken into consideration when using different review products. One KI (guideline developer) felt that the rapid review was limited in terms of the spectrum of benefits and harms needed for their decisionmaking purposes. Further, rapid reviews may not be helpful if they do not provide sufficient detail with respect to important subgroups.

Another theme that emerged is that rapid responses and rapid reviews may be more relevant for issues (often narrow questions) that arise within the clinical setting specific to a health system (where it may be more feasible to narrow the scope), or when interest is more on implementation (e.g., tailoring the evidence to a given region/setting). Conversely, KIs felt that broad/national guidelines more often need a full SR. The following is one KI's comment highlighting this perspective (guideline developer):

"So that's the dichotomy to me is that there are people working on implementation and what's going to happen out in our system of care delivery; and there are people working on

trying to make sure that what we're saying is the right thing to be doing and there's a tension between that. We've often talked about the struggle to balance rigor with efficiency and so the operationally oriented folks are willing to take a risk on the absolute correctness and the answer in order to do something and to do it reliably across the delivery system where the more traditional EBM people and guideline people would really rather take the time to make sure they know that they've got the right answer."

Many KIs emphasized that an evidence review is just one part of the decisionmaking process. There are many other factors considered, including cost and feasibility.

Table 3. Uses of rapid products and standard systematic reviews

Use	Evidence	Rapid	Rapid	Systematic
	Inventory	Response	Review	Review
For broad topic areas/population issues				X
To inform research agenda				X
For in-depth understanding of a topic area				X
For guideline or recommendation development			X	X
For guideline/recommendation updates or new			Х	Х
issues subsequent to a guideline/recommendation			^	^
For coverage decisions			X	X
For organizational or policy change			X	X
For implementation			Х	X
For quick decisions			X	
When no previous SR or guidance exists			X	
For "hot" or timely topics	X	X		
In area with limited literature	X	X		
To understand depth and/or breadth of evidence	Х	Х		
e.g., evidence maps	^	^		
To clarify whether a review is already available	X	X		
To ignite/catalyze change or challenge the status	Х	Х		
quo	^	^		

Themes About Review Products

Our analysis of interviews about rapid products with end-users of AHRQ EPC systematic reviews identified the following themes:

- Trust was the primary issue that arose in the context of how end-users valued a review, and in particular whether they would rely on a rapid product. Trust was associated with a producer that the KIs knew or that had a positive reputation (e.g., established legacy of activity). Other aspects that contributed to trust in a product or producer was how the material was presented (e.g., consistent approach, attention to detail) and clear/transparent specification of methodological details (even if some limitations were applied). KIs stressed that trust is built through active engagement with the end-users. Methodological alterations (e.g., single review at multiple steps of the systematic review process) appear to be secondary to the trust established through consistent products and active end-user engagement. Further, if end-users trusted the source, they were willing to overlook occasional mistakes or oversights.
- KIs stressed the **relevance of the key questions**, noting that if the questions did not directly address the specific end-user's needs, the review was of little or no value. This applied to rapid products as well as full systematic reviews; however, this was one of the major limitations of a rapid product the frequent need to narrow the scope of the key questions, or restrict the number or types of outcomes, as a means to increase

- efficiencies. One particular situation where rapid products were considered limited was where more detailed analysis of subgroups was needed to inform specific coverage, clinical, or policy decisions. End-users spoke about needing to conduct supplemental searches and analyses themselves in order to fill this gap.
- Maintaining a close working relationship between the end-user and the review
 producer was considered important in order to ensure that the key questions and their
 components respond to the end-user's needs and purpose. Without a close and ongoing
 relationship there is a concern that the actual report becomes distant from the original
 questions.
- Several KIs found the **strength of evidence and evidence tables to be essential** and often the most valuable parts of the reports. End-users liked to see the outcome data, methodological quality, and strength of evidence summarized in a readable and readily accessible form (e.g., formats that "front-load" the information you need with additional "information that you can go to if you have specific questions").
- The ability to easily change or reverse a decision (or change your mind) may be one distinction or hallmark of when a rapid product may be useful. For example, KIs expressed that a full systematic review is more often necessary for clinical practice guidelines, broad application of the evidence (e.g., "change the direction of the organization on a very important topic"), or macro topics (e.g., population-level implementation). Conversely, a rapid product may be sufficient: for decisions being made on a local basis (e.g., point-of-care clinical decisions, nuanced clinical situations, local coverage decisions) where there is not the same level of scrutiny; for "in the moment sort of decisions"; to act as an update for a previous comprehensive guideline or address an issue that comes up secondary or subsequent to a guideline; or, to get a general sense of the literature or scale of the issue. These latter cases may be used to inform or stimulate discussion or challenge the status quo.
- Related to the above issue, KIs commented on the risk that a rapid product might give the wrong answer and indicated that **reviews "narrow uncertainty but never eliminate it**;" moreover, "there's always a chance you're going to miss something." The implication of being wrong was considered to depend on the stakes (e.g., ability to change a decision). One KI commented that getting something wrong is "not isolated to a rapid review;" for example, some decisions have been made based on large trials published in high impact journals which are subsequently contradicted by new evidence—"it happens in all kinds of areas in the medical literature." In general, uncertainty seemed more acceptable for local, system-based decisions versus national guidelines: "it's the tradeoff of how long do you want to wait to be sure that you have the absolutely right answer versus get this knowledge into the field where people might be able to start applying it."
- KIs commented on the fact that there is generally more than the evidence of benefits and harms to consider when making a decision; therefore, rapid products provide one source of information in the context of other considerations for decision-making. Due to these other factors, there may be less perceived risk of using a rapid product (e.g., in terms of the answer being 'wrong' or level of concern that information might be missed). These other factors include context (e.g., viewpoints of the public and clinicians), the burden of disease and population affected (e.g., vulnerable populations), and costs (e.g., common and inexpensive vs. rare and expensive). In fact for the payers, costs can "be a

- deal breaker".
- A final theme that emerged was that it is the responsibility of reviewers to help users understand potential ramifications of streamlined methods, as end-users may not be aware of the specific steps and accepted methodological approaches. Moreover, as mentioned above, the end-users appear less concerned with methodological alterations so long as the product comes from a reliable source and addresses their questions of interest. One KI reported using the AMSTAR tool to assess whether a review is trustworthy.

Discussion

Our findings add to what was previously known about the variety of available rapid review products and distinguishes potential uses by AHRQ end-users. We specifically asked key informants about three different rapid review types (evidence inventory, rapid response, and rapid review). Our interviews suggest that each product type could prove useful under specific circumstances. In particular, evidence inventories and rapid responses may be useful decisionmaking tools for "hot" or timely topics, for areas with limited literature, or to understand the extent of available evidence. True rapid reviews, in contrast, could be used by AHRQ endusers for instances when quick decisions are required or for implementation decisions.

The qualitative interviews identified a number of critical aspects relevant to using rapid review products. Our findings confirm that end-users build trust with review producers and suggest that rapid review products may be more or less acceptable to decisionmakers based on the established reputation of producers. This places the responsibility for the reliability and validity of the product in the hand of the producers. Producers need to ensure that rapid products use transparent methods that communicate potential risks to end-users. ¹⁶ In addition, producers should be aware of the potential harm a misleading conclusion in a rapid product could have on their reputation. ¹⁷

Our interviews indicated that end-users may accept trade-offs in review methods, such as limiting the literature search and conducting single screening of abstracts and full text. For the scientific systematic review community, eliminating key procedures meant to reduce reviewer errors and bias represents an important variation from the methods used in most current AHRQ EPC products, which follow standard systematic review methodology. Empirical research on systematic review approaches has concentrated on identifying the incremental validity of systematic review methods, ¹⁹⁻²⁴ or the validity of the end product (for example, comparing the conclusions reached in rapid reviews vs. systematic reviews). However, such empirical research is limited, and further research is needed to fully understand the impact of changes to standard systematic review methods (e.g., screening and data abstraction in duplicate by two independent reviewers rather than by a single reviewer, or by a single reviewer with verification) and other steps used to expedite evidence reviews.

According to our key informants, other characteristics of the review product also appear to significantly contribute to the usability of the product, such as quality assessment of included studies, the use of evidence and summary tables, strength of evidence assessments, and future research recommendations. The trade-off of reducing or removing these aspects of reviews to gain efficiencies may result in the review being less valued by the end-user.

Our findings also reaffirm the value of the relationship between review producers and endusers, particularly for the development of key questions that the review aims to answer.²⁷ The interviews suggested that an interactive and ongoing relationship ensures that the product meets

end-user's needs.

With respect to the different types of rapid products, KIs were more likely to consider them useful if they had previous direct experience using them. The following observations were made for the specific rapid review products:

Figure 2. Taxonomy of rapid products: Evidence Inventory⁸

Evidence Inventory

- List what evidence is available, and often other contextual information needed for making decisions
- . Do not synthesize the evidence or present summaries or conclusions.
- Generally systematic and comprehensive; therefore, can provide a useful first step for decisions about coverage or purchase, in particular whether further research is warranted.

Evidence Inventory: Although some of the KIs saw value in this product, it was generally not considered sufficient to inform decisionmaking because it did not "give an answer to the question" or a synopsis of the evidence. Some KIs indicated that an evidence inventory may be useful to stimulate discussion, to challenge the status quo, or to get a sense of the literature when there is a pressing concern. These situations were typically in the context of a hospital system, particularly in the case of internal barriers to implementation (e.g., the literature shows alternative approaches).

Figure 3. Taxonomy of rapid products: Rapid Response⁸

Rapid Response

- Evaluate the literature to present the end-user with an answer based on the best available evidence (usually guidelines or systematic reviews)
- Do not attempt to formally synthesize the evidence into a conclusion
- · More likely to describe clinicians among end-users

Rapid Response: Again, few KIs found this product to be sufficient for their decisionmaking needs although they did prefer this to an evidence inventory as it provided some synopsis of the literature. A perceived use for a rapid response was to validate the need for future research or an evidence synthesis (e.g., identify the volume of research in a given (sometimes broad) area and whether or not there is consistency in terms of benefits, and for some local clinical or systems-level decisions).

Figure 4. Taxonomy of rapid products: Rapid Review⁸

Rapid Review

- Perform a synthesis (qualitative, quantitative or both) to provide the end-user with a conclusive answer about the direction of evidence and possibly the strength of evidence
- Conclusion may be hedged, but it is still a synthesized statement that could be compared with a systematic review
- Generally able to meet time constraints by limiting the scope, are somewhat less comprehensive in their data sources, use fewer quality controls, and the synthesis is usually qualitative

Rapid Review: Many of the KIs liked the rapid review and generally considered this to be acceptable when a traditional systematic review is unavailable. Most types of end-users considered the rapid review to be useful. While the guideline developers generally wanted something more comprehensive and detailed, they felt rapid reviews may be used for guidelines on narrow topics, updates of guidelines, or for new issues that arise subsequent to a guideline or

recommendation. Other end-users (e.g., payers/insurers) were less concerned about comprehensiveness. Positive aspects of the rapid review included its conciseness, clear presentation, and a focus on existing syntheses and high quality studies. This was considered useful for policy decisions that were time-dependent. It was noted that rapid reviews may not be useful if the findings are subtle, or when the literature is inconsistent and there is a need for more detailed (and comprehensive) evaluation to tease out the results (e.g., reasons for inconsistency/heterogeneity).

Implications for the EPC Program

AHRQ's EPCs are recognized as leaders in conducting comprehensive systematic reviews that influence clinical practice, shape health policy, and assist stakeholders in health care decision making. The typical process for producing a systematic review within the EPC Program follows a number of steps including topic nomination, topic triage, topic refinement, and completion of the full review, and can take as long as two years. Hence, reviews cannot be commissioned to provide evidence to support decisions that need to be made urgently. Further, due to the prolonged process and multiple stakeholders involved, the end product is sometimes considered too long, dense, or not ideally focused for a particular stakeholder. Based on the previous work cited, we envisioned that rapid review products (or some of the methods and/or approaches they employ) may be relevant to the EPC Program; however, an important step was to assess the end-user perspectives on different rapid review products, and the acceptability of different approaches to support their decision making needs.

While based on a small sample, this project suggests that some discussion within the EPC program may be warranted to explore how we can modify our approach to meet end-users' needs. This may entail more flexibility in the range of products and/or approaches; however, careful consideration in offering rapid products is needed given that some rapid products may have limited relevance, e.g., only informs a particular decision by a particular stakeholder. The project also highlighted the importance of spending adequate time and effort on the front end of the process (i.e., when engaging the partner or critical stakeholders). It may be that an end-user would accept and prefer a rapid product over a full review given a shorter timeframe in which they need to make a quick decision. The current topic refinement process within the EPC Program aims to ensure that key questions are relevant and meet end-user needs; however, this process can be considered lengthy (i.e., up to 6 months), particularly given that the full review can take up to an additional year to produce. Some aspects of rapid review methodology are already part of existing EPC processes (e.g., methods used in topic triage to determine which topics should go forward). Further, some aspects of rapid review products are already part of existing EPC products (e.g., Technical Briefs do not provide a synthesis of the evidence and focus more on the systematic identification of available literature and pertinent research issues; Horizon Scanning aims to identify new, or new uses of existing, drugs and technologies to inform investments in comparative effectiveness research). ²⁸ End-users may value access to interim EPC products, such as topic triage, intended to inform the full review. Currently, there is no central clearinghouse of rapid products. Future efforts to create a searchable online database of rapid products could be valuable to both end-users and producers, and may avoid unnecessary duplication; however, caveats about what these different products offer are needed to ensure that end-users understand their purpose and potential limitations.

Strengths and Limitations

We followed sound qualitative methodology in eliciting perspectives from different types of users and in identifying themes. However, our small sample size means that results may not be representative of all end-users and we cannot be sure that the themes reached saturation. This is especially true in considering whether there are differences in the perspectives across and between types of users. The hypotheses generated from this work need further evaluation.

We chose to interview frequent and known users of AHRQ products. It may be that infrequent users or more varied audiences would have different perspectives. It could be, for instance, that new or different users would find more or less value in rapid review products. Eliciting views from additional audiences may also help in understanding obstacles or benefits to using rapid reviews. However, current AHRQ users provide a critical perspective as they are knowledgeable about systematic review methodology, have a high standard for evidence synthesis, and may be considered the most likely audience for any AHRQ rapid review products.

Future Directions

Our small sample size meant that we could not make definitive statements in comparing the needs and values of different end-users. Further, there are other perspectives we did not collect, including those from front line clinicians, patients, and infrequent users of AHRQ products. Conducting interviews with a larger number of more diverse users would allow differences to be teased out and enable the evaluation of hypotheses identified in this work.

We were also unable to identify specific tradeoffs that would be acceptable to end-users. A more structured survey of end-users may provide more information about trade-offs. These types of questions could elucidate what would be acceptable in terms of time or other resource trade-offs for the inclusion of a specific review methodology or characteristic. Under what circumstances, for what questions, would end-users trust a rapid review product?

Ideally, future studies would also move beyond hypothesis generation to empirical testing. A possible design is the completion of a systematic review and a rapid review product on the same question. Ultimately, we would want to know how long it took to produce each product, if these different review products were more or less useful for end users in informing decisions, and, most importantly, if those decisions would be different depending on the product used.

Empirical research on the impact of streamlining specific methodological approaches is essential given the finding that changes to methodological approaches appear to be acceptable to end users as long as trust is established through consistent products and active end-user engagement, and there is clear communication by producers about methods and the potential ramifications of streamlined methods.

Finally, this and our previous work on rapid reviews have identified a tremendous wealth of information contained within these products that could be useful to stakeholders beyond those who commissioned the specific reports. However, there is no central repository for rapid products. Many are not published in traditional peer-reviewed sources, indexed in bibliographic databases, or digitally archived. While some are publically available on the websites of review producers, others are only available upon request or subscription. Discussion among the community of rapid review producers to explore the potential for a central repository is warranted.

Conclusions

This work provides insight into the perspectives of AHRQ evidence synthesis end-users, highlighting as important: the credibility of the review producer, relevance of key questions, and close working relationship between the end-user and review producer. This work also identifies review characteristics that are considered essential for decisionmaking, some acceptable methodological trade-offs, and potential uses of rapid review products.

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Appendix A. Invitation to Key Informants

Dear [Key Informant],

We are conducting a project on end-user perspectives of rapid reviews. This is an extension of a white paper we produced last year that examined methods and guidance for conducting rapid reviews. As part of this Agency for Healthcare Research and Quality (AHRQ) funded project, we are having discussions with thought leaders in the field who use AHRQ Evidence-based Practice Center (EPC) reviews.

Because of your experience as an end-user of EPC reviews, we would like to schedule a time to speak with you. If you or your organization does not use EPC reviews, please let us know. Also, please let us know if there is a different person in your organization that you think we should contact instead.

Your participation would involve a 60-minute individual interview. In this discussion we hope to learn your perceptions of evidence syntheses currently produced through the EPC Program, what aspects of them are helpful for your decision-making, and whether there are trade-offs in methods or comprehensiveness you are willing to make for different decisions and to meet different timelines.

If you are able to participate, please respond to our doodle poll with your availability at [link to doodle poll]

If you are unable to make any of the above times, please let us know and we may be able to arrange another meeting time.

Please confirm whether or not you will be able to participate in this project by [Date, 2014].

Thank you for your consideration. If you have any questions, or would like additional information, please contact Pua Motu'apuaka at Makalapua.Motu'apuaka@va.gov or 503,220,8262 x52367.

Sincerely,

Jeanne-Marie Guise, M.D., M.P.H. Associate Director Scientific Resource Center for the AHRQ Effective Health Care Program

Sent on behalf of Jeanne-Marie Guise by the AHRQ Scientific Resource Center

Appendix B. Interview Guide

Introduction

The overall mission of the Agency for Healthcare Research and Quality's (AHRQ) Effective Health Care (EHC) Program is to provide evidence-based information to health care stakeholders that is relevant to their needs, timely, objective, scientifically rigorous, and developed and presented with transparency.

Objectives

- 1. Determine what makes AHRQ end-users trust and value an evidence synthesis, including (but not limited to) extent of synthesis, extent of information, specific pieces of information, formatting/presentation of information, organization that produced the report (and their relationship with that organization), methods used to conduct the synthesis; does this vary by the nature of the decision being made?
- 2. Determine end-user impressions of different rapid products with a focus on acceptability and usability (not necessarily validity). Determine their impressions with respect to: strengths and limitations, trade-offs (what pieces or methods could be altered to increase efficiencies, what are they willing to accept), risks (in terms of the answer being 'wrong'; how bothered that some information might be missed), where/when/how they might use them; does this vary by the nature of the decision being made; some guiding questions:
 - a. If you had a rapid product, how would it be useful to you and in what context?
 - b. If you had a time dependent decision, what are you confident using, knowing that different products may give different answers?

There are no right or wrong answers, so please feel free to share your thoughts openly. We would welcome any materials that you would like to share with us either before or after the discussion session. Please send any questions or materials to Makalapua.Motu'apuaka@va.gov

Ground rules for discussion session

The discussions will be tape recorded, transcribed, and analyzed for overarching themes. Although the report may list individuals who were interviewed, answers will not be identifiable to individuals or specific organizations. You may refrain from answering any questions and are welcome to leave the discussion at any time.

Materials provided for discussion during the call

We have sent you an example of a report produced through the Evidence-based Practice Center (EPC) program. We have also provided samples of rapid review products. During our discussion we will refer to these products. The following are the documents sent to you (these are further described in the Table on the last page of this interview guide):

- AHRQ EPC Comparative Effectiveness Review.pdf
- Evidence Inventory Sample.pdf
- Rapid Response Sample.pdf
- Rapid Review Sample.pdf

Questions

- 1. We have provided you with an example of a typical EPC report. Can you tell us how you have used or might use such a report?
 - a. In what context have you used or would you use a report like this (for what types of decisions, etc.)?
 - b. What elements of the report do you consider important/critical to informing decisions? E.g., type/breadth of questions; extent of search (number of databases, grey literature, date, setting, language); all outcomes versus select outcomes; quantitative results, forest plots; summary of findings / strength of evidence / GRADE tables; appendices (study details); how much do the details of individual studies matter, e.g., quality of primary studies; conclusions (do you find the conclusions helpful or prefer to draw your own); other
 - c. Under what circumstances have you or would you:
 - i. Retrieve any of the individual studies
 - ii. Complete additional analyses
 - iii. Complete additional syntheses
- 2. Do you have knowledge of or experience using rapid review products?

If you have experience using rapid review products:

- a. What kind of decision(s) did you make?
- b. What elements of the report were important/critical to informing your decision?
- c. Did you conduct additional analyses or gather additional information?
- d. Were there major benefits or limitations with the information available?
- e. Did you share with colleagues (where and who within the organization, e.g., individual physicians, committees, etc.)?
- f. What do you consider the pros and cons of using rapid review products?

If you have knowledge of (but no experience using) rapid review products:

- g. What types of decisions do you think they would be helpful for?
- h. In general what do you consider the pros and cons of rapid review products?
- 3. Can you take a look at the sample of rapid review products we provided (see Table and attachments):
 - a. Would you find any of these useful? If so, for what types of decisions?
 - b. If you had a time-dependent decision, what type of product would you be willing to accept?
 - i. If you requested a customized report, what would you be willing to tradeoff to get your report in a timely fashion?
 - ii. If you were able to access a rapid product that someone else had commissioned, how useful would it be to you?
 - c. Would you trust the information? Why or why not? What would increase your trust/confidence in the information?
 - d. What pieces of information did you look for to tell us whether you would use it and/or trust it?
 - e. What do you see as potential risks of using different types of synthesis products, or information generated using variable methods?

- i. If you need to make compromises in terms of the comprehensiveness and formatting of evidence, does the level of risk/compromise you are willing to make change based on the type of decision?
- ii. What are factors you would consider in the risk you are willing to take (e.g., safety concerns, burden of disease, cost)?
- iii. If the evidence is wrong, what is the acceptable level of risk (e.g., permanent vs. transient adverse effects)?
- 4. How important is the relationship with the producer of the evidence synthesis product?
 - a. In terms of providing useful information to make your decisions
 - b. In terms of credibility

Examples of different types of rapid review products (See attachments sent in advance of the call)

Rapid Review Product	Document name	Title
Evidence inventories list what evidence is available,	Evidence	Acetylsalicylic Acid for Venous
and often other contextual information needed for	Inventory Sample	Thromboembolism Prophylaxis: an
making decisions, but do no synthesis and do not		Update of Clinical Evidence
attempt to present summaries or conclusions.		
Rapid responses organize and evaluate the	Rapid Response	Knee-length versus Thigh-length
literature to present the end-user with an answer	Sample	Compression Devices for Treating
based on the best available evidence but do not		Deep Venous Thrombosis
attempt to formally synthesize the evidence into a		
new conclusion. Usually this means reporting the		
conclusions of guidelines or systematic reviews, but		
some rapid response products apply a best evidence		
approach and report the results of primary studies if		
no secondary sources are available.		
"True" rapid reviews perform a synthesis	Rapid Review	Intermittent Pneumatic
(qualitative, quantitative, or both) to provide the end-	Sample	Compression Devices for Venous
user with an answer about the direction of evidence		Thromboembolism Prophylaxis
and possibly the strength of the evidence.		

If you have any additional comments or materials you wish to share, such as examples of reviews, please let us know via telephone at 503-220-8262 x52367 or via email at Makalapua.Motu'apuaka@va.gov. We appreciate any and all information you can provide us with.