Evidence summaries tailored to health policy-makers in low- and middle-income countries

Sarah E Rosenbaum, Claire Glenton, Charles Shey Wiysonge, Edgardo Abalos, Luciano Mignini, Taryn Young, Fernando Althabe, Agustin Ciapponi, Sebastian Garcia Martí, Qingyue Meng, Jian Wang, Ana Maria De la Hoz Bradford, Suzanne N Kiwanuka, Elizeus Rutebemberwa, George W Pariyo, Signe Flottorp & Andrew D Oxman

Objective To describe how the SUPPORT collaboration developed a short summary format for presenting the results of systematic reviews to policy-makers in low- and middle-income countries (LMICs).

Methods We carried out 21 user tests in six countries to explore users’ experiences with the summary format. We modified the summaries based on the results and checked our conclusions through 13 follow-up interviews. To solve the problems uncovered by the user testing, we also obtained advisory group feedback and conducted working group workshops.

Findings Policy-makers liked a graded entry format (i.e. short summary with key messages up front). They particularly valued the section on the relevance of the summaries for LMICs, which compensated for the lack of locally-relevant detail in the original review. Some struggled to understand the text and numbers. Three issues made redesigning the summaries particularly challenging: (i) participants had a poor understanding of what a systematic review was; (ii) they expected information not found in the systematic reviews and (iii) they wanted shorter, clearer summaries. Solutions included adding information to help understand the nature of a systematic review, adding more references and making the content clearer and the document quicker to scan.

Conclusion Presenting evidence from systematic reviews to policy-makers in LMICs in the form of short summaries can render the information easier to assimilate and more useful, but summaries must be clear and easy to read or scan quickly. They should also explain the nature of the information provided by systematic reviews and its relevance for policy decisions.

Introduction

To maximize the use of available resources, health policy-makers need reliable up-to-date evidence about “what works”. In low- and middle-income countries (LMICs), the pressure to extract the most out of funds is particularly great, as the gap between the resources available and those that are needed to address the burden of preventable diseases is much larger than elsewhere.

Systematic reviews cover not only clinical interventions, but also arrangements for delivering, financing and managing health services. Insofar as they are based on an exhaustive search for relevant studies, they are valuable sources of research evidence and reduce the chances of being misled by biased information. They make finding and appraising the evidence much easier and faster and they illuminate areas where no evidence exists.

Systematic reviews very often contain findings that are relevant for LMICs. However, most are written largely for scientific audiences and are not well tailored to the information needs of policy-makers. Table 1 presents what we know about the type of information policy-makers need.

The Supporting Policy-relevant Reviews and Trials (SUPPORT) project was an international collaboration funded from 2006 to 2010 by the European Commission’s 6th Framework Programme and by the Global Health Research Initiative of the Canadian Institutes of Health Research. Its objective was to provide training and support to encourage researchers and policy-makers to undertake and use policy-relevant research. The consortium had 10 partners in nine countries in Africa, South America and Europe. In this article we report on the SUPPORT collaboration’s development of summaries of systematic reviews for policy-makers in LMICs. Our objective was to tailor a summary format that was sensitive to the needs of this audience.

Methods

Selecting reviews and developing content

We screened references (up to 2009) from the Cochrane Library, MEDLINE and EMBASE to identify systematic reviews relevant for SUPPORT, based on topic and methods documentation. For this study we selected five of these. We extracted data, assessed review quality using a checklist and assessed evidence quality using GRADE. Based on earlier
Evidence summaries for health policy-makers

Length is a barrier; short summaries (with key messages highlighted) are strongly preferred.

Timely retrieval of relevant research facilitates use.

What is already known

- LMIC researchers (prospective summary authors) to inform summary development from an author’s perspective. This was followed by working group workshops with experts in evidence dissemination (CG), information design (SR) and epidemiology (ADO), during which ideas were generated based on an analysis of user testing and advisory group feedback. Finally, we designed new summary versions based on the above.

Test the summaries

The testing method was a think-aloud protocol using a semi-structured interview guide. Individual sessions lasted one hour and included one participant, one interviewer and one note-taker. Introductory questions covered the participants’ education, employment and familiarity with research and systematic reviews. Participants chose one of five possible summaries to read at their own pace. The interviewer then guided them through each part of the document, prompting them to think aloud. The interview guide was based on a framework for user experience with six facets: “findability”, credibility, usability, usefulness, desirability and value. Finally, the interviewer asked participants for suggestions and additional comments.

The interviewing audio-taped and transcribed each session and arranged for the transcriptions and notes to be translated (when necessary) and sent to the working group. They also erased audio tapes and removed participant identity from the compiled results. Two researchers from the working group performed separate analyses and identified barriers or facilitators to favourable experiences of the summary according to the user experience framework. We then compared and reconciled analyses and sorted the findings according to summary section (e.g. front page) or general theme (e.g. language).

We used the results of the analysis to make both content and design changes, after which we presented both the user test analysis results and the new summary to the advisory group in a telephone meeting. This group suggested only minor changes.

After this redesign we sent the participants both a brief outline of our findings and the old and new summaries by post or e-mail. We asked them to indicate which version of the summary they preferred and why and to comment on the accuracy of our findings.

Results

Since the pilot test results did not deviate from the rest, we pooled together all the results. One test participant had full-time medical school employment; the other 20 were primarily senior staff.

Table 1. Information needs of policy-makers with respect to the evidence

<table>
<thead>
<tr>
<th>General topic</th>
<th>What is already known</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrieval</td>
<td>Timely retrieval of relevant research facilitates use. [10,11]</td>
</tr>
<tr>
<td></td>
<td>Time scale for commissioning new research fits poorly into time frame for policy-making. [12]</td>
</tr>
<tr>
<td></td>
<td>Research is often published in academic sources poorly accessible to policy-makers. [13]</td>
</tr>
<tr>
<td>Relevance for LMICs</td>
<td>LMIC policy-makers may have limited access to subscription-based information or to the Internet. [14,15]</td>
</tr>
<tr>
<td></td>
<td>Research carried out in high-income countries may have limited applicability to LMICs. [16-18]</td>
</tr>
<tr>
<td>Content</td>
<td>Systematic reviews sometimes answer too narrow a question. [19]</td>
</tr>
<tr>
<td></td>
<td>Policy-makers want not just information about “what works”, but also clearly articulated implications for policy, such as costs, applicability, impacts on equity. [1,3,10,13,20-22]</td>
</tr>
<tr>
<td>Design/ease of use</td>
<td>Length is a barrier; short summaries (with key messages highlighted) are strongly preferred. [10,13,20,21]</td>
</tr>
<tr>
<td></td>
<td>The perceptions that reviews facilitate the critical appraisal of evidence and are easy to use are strongly associated with use. [1]</td>
</tr>
<tr>
<td></td>
<td>Correct understanding of evidence and its quality in full-text format may be difficult for non-researchers. Tables that summarize findings may help. [24]</td>
</tr>
<tr>
<td></td>
<td>Use of familiar, jargon-free “plain language” is recommended. [13,25]</td>
</tr>
</tbody>
</table>

LMICs, low- and middle-income countries.
members involved in national or international health service or policy-related work in health departments, national insurance programmes, hospitals or aid organizations. Seventeen participants said that they used research in their work, though several seemed to define "research" as any information-gathering on a topic; 18 said that they knew what a systematic review was, but six of these participants were unfamiliar with Cochrane reviews.

Of the six facets we explored from the user experience framework, those pertaining to usefulness, usability and credibility yielded the most important findings.

Usefulness
Sixteen participants reported that the evidence summary would be useful to them if they had to make a decision on the subject treated in the summary. The graded-entry format with key messages up front was perceived as particularly useful because it offered concision. However, many still felt a mismatch between the type of content offered and their information needs:

"[The summary] explains that there is a high degree of satisfaction with what the nurse practitioners are doing compared to the doctors. But it doesn’t say … whether they are supposed to cover what the medical doctor or practitioner usually covers. And what sort of services? Is it general practice, is it in a hospital ward or where?"

Some respondents expressed unmet expectations probably stemming from a poor understanding of the nature of a systematic review. Specifically, they expected content lying outside the scope of a review: recommendations, outcome measurements not usually included in a review, detailed information about local applicability or costs and a broader framing of the research enquiry.

Usability
Five participants felt that the summary was not comprehensive enough. However, six wanted a shorter, clearer presentation:

“Operational managers will be petrified. When I think summary, I think one page … I would not have time to read a long document even though I would want my work to be evidence-based.”

Eight participants found the tables difficult or confusing, and nine said that the concepts presented in them, including those that showed the GRADE assessment and different levels of risk, were not clear.

“This section [summary of the findings] would be very difficult to understand by people not trained in evidence-based medicine. Words like ‘sample size’ and ‘relative risk’ would be difficult to interpret…”

Some participants felt that tables running over two pages were cumbersome to read and that the abbreviations caused confusion. Participants also compared the numbers in the text with those in the tables and became confused if they did not correspond precisely. The use of jargon and/or unfamiliar vocabulary posed a barrier (e.g. "scaling up" was not understood to include financial considerations).

Credibility
Early in the interview participants were asked if they would trust the summary. Two responded affirmatively because it was "well written". Twelve answered that they would trust it because they perceived it as coming from credible sources:

“I would trust a report like this. It uses systematic reviews as sources of information and I know that this kind of information is of high quality.”

“The references are clear as well as the source. That’s the most important thing.”

However, not everybody understood that the summary stemmed from a systematic review. Some expressed confusion about authorship (partner logos appeared on the last page). Some also expressed reduced interest in the content when they discovered that the quality of the evidence was low, that no evidence for important outcomes existed or that the studies were old. One participant was confused about how a high-quality review could be compatible with low-quality evidence.

Value
Seventeen participants felt that summaries of the kind presented to them would be valuable to policy-makers holding positions similar to theirs.

Desirability
Fourteen participants said they liked the summary, particularly the front page with key messages and the section on the relevance of the evidence and the intervention for LMICs. Seven reacted positively to the table describing the characteristics of the reviews:

“[I] like this chart; it makes clear what the review was looking for.”

Five participants said that they liked the framing of the title as a question (e.g. “Does pay-for-performance improve the quality of health care?”).

“Findability”
When asked where they would expect to find these summaries, seven participants answered “in face-to-face meetings”. Many mentioned the web sites of the World Health Organization, the Pan American Health Organization, the Cochrane Collaboration, health ministries and universities.

Three challenging findings
Several of our findings pointed to obvious solutions that we adopted. These included simplifying the text and tables; limiting the number of tables and not letting them break across pages; ensuring that the results in the text matched those in the tables; eliminating abbreviations; using consistent language and standard phrases to describe effect sizes and the quality of the evidence; replacing unfamiliar terms or adding definitions; moving partner logos and the summary publication date to the front page.

However, we found three larger issues more challenging: (i) participants’ poor conceptual understanding of systematic reviews; (ii) participants’ expectations that they would receive information not found in the systematic reviews; and (iii) participants’ expressed desire for shorter, clearer summaries.

To address the poor understanding of the nature of systematic reviews and the type of information they can provide, we added “information about the information” or meta-information in the form of boxes placed throughout the summaries.

To help satisfy participants’ expectation of being provided with information not found in the systematic reviews, we replaced the section for references with a section for “additional information”. We broadened the scope of this section and
Evidence summaries for health policy-makers

Evidence Boost provides summaries from high-income countries and several of them target policy-makers from different countries who represented different levels of decision-making and familiarity with research evidence. It was also strengthened by the presence of a multi-disciplinary advisory group of researchers and summary authors from LMICs. However, the translation of interview transcripts from Spanish and Chinese into English may have affected the correct interpretation of participants’ feedback. Additionally, participants’ awareness that interviewers were involved in preparing the summaries may have affected their responses. Finally, summary topics were pre-selected and not necessarily matched to participants’ interests, and as a result reading motivation and understanding of the material may have been undermined.

Other summaries and evaluations

There are various products for effectively conveying the results of systematic reviews that are targeted to policy-makers, and several of them target policy-makers in LMICs in particular. For instance, the Evidence Aid project provides summaries of Cochrane reviews for emergency settings. Sources of relevant evidence summaries from high-income countries include the Rx for Change database, Evidence Boost and the Policy Liaison Initiative. However, we uncovered few studies reporting on the evaluations of summary formats for policy-makers and those we did identify support our own findings. Lavis et al. found that a graded-entry format and up-front take-home messages rendered health technology assessment reports more useful. An evaluation of Evidence Aid summaries showed that the summaries would be more useful if their coverage were not restricted to a single review and that language should be tailored to non-clinical audiences. In both studies, content that helped users to contextualize the evidence (e.g. a discussion of applicability) was found to be particularly valuable.

Shorter messages or rapidly scannable texts?

One of our overriding findings was a clear strong preference for short messages, also found in other studies of policy-maker preferences in research presentation. There is, however, a limit to how much information can be condensed before it loses value and credibility. When these limits are reached, editing the text does not suffice and methods such as graded-entry structuring of the text and front-page summaries of key messages must be used. In recent years, research on the use of web sites has taught us much about how people visually scan texts, rather than read them. This knowledge can be applied to improve information delivery in policy contexts where readers have limited time. Bulleted lists, shorter paragraphs and judicious use of headings are known to make scanning a text easier.

Supporting better comprehension

We uncovered several problems linked to poor comprehension of numbers and statistics. Other studies have also shown that even highly educated people struggle to understand numerical risk. This can result in frustration and in a failure to fully understand the main messages. However, correct comprehension depends not only on the skills and knowledge of the reader, but also on the way the information is presented. By assuming a weak background knowledge (e.g. of scientific language or of the nature of systematic reviews) and low “statistical literacy”, summary authors can add information to help readers better understand the strengths and limitations of the scientific evidence being summarized. Adding meta-information that explains concepts such as the quality of the evidence may help eliminate frustration and trigger reflection.

Future research

Systematic reviews attempt to answer narrowly-defined scientific questions, such
Evidence summaries for health policy-makers

Sarah E Rosenbaum et al.

The favourable responses we observed suggest that there is value in mapping out these issues even if answers geared towards specific settings cannot be provided. According to earlier studies, research findings may be conceptually useful though not necessarily instrumental for policy-making. When evidence quality is too weak to provide conclusive answers or when decision-makers’ settings vary greatly from those portrayed in the studies, evidence coupled with this kind of complementary content may still be helpful in understanding the nature of the problem at hand, a possibility that future research should explore. In addition, studies should be conducted to determine how SUPPORT summaries compare with full reviews in terms of their effect on understanding, time spent reading and user satisfaction. If conducted in real-life contexts, such studies could further inform summary development.

Conclusion

Systematic reviews are an important resource, but policy-makers are often unfamiliar with them and they are not easily accessible. Summaries of systematic reviews can help address these problems as long as they are clear and easy to read or scan quickly. They should also help to clarify the nature of the information provided by a systematic review and its applicability to policy decisions. The SUPPORT summary format can make the evidence gathered through systematic reviews more useful for policy-making in health.

Funding: The SUPPORT collaboration was funded by the European Commission’s 6th Framework Programme Priority FP6-2004-INCO-DEV-3. SUPPORT summaries are freely available at http://www.support-collaboration.org

Competing interests: None declared.

None declared.
Рассказать о том, как организация SUPPORT Evidence summaries for health policy-makers Bull World Health Organ grupo de asesores y hemos llevado a cabo talleres de grupos de trabajo. las pruebas de usuario evidenciaron, hemos consultado la opinión de un 13 entrevistas de seguimiento. Con el fin de solucionar los problemas que los resultados y hemos comprobado nuestras conclusiones mediante formato de resumen. Hemos modificado los resúmenes en función de distintos, con el fin de conocer las experiencias de los usuarios con este Método Resúmenes de datos diseñados para los responsables políticos de los países de ingresos medios y bajos (PIMB).

Métodos Nous avons réalisé 21 tests utilisateur dans six pays afin d’étudier l’expérimentation de synthèses systématique par les utilisateurs. Nous avons modifié les synthèses en fonction des résultats et vérifié nos conclusions par le biais de 13 entretiens de suivi. Afin de résoudre les problèmes dont les tests utilisateur ne traitaient pas, nous avons également recueilli les commentaires du groupe consultatif et organisé des ateliers de groupe de travail.

Résultats Les responsables appréciaient le format d’entrée progressive (par ex. une synthèse courte introduite par des messages clés). Ils avaient une préférence notable pour la section dédiée à l’importance des synthèses pour les PRFI car elle compensait l’absence de détails locaux essentiels de l’évaluation d’origine. Certains ont eu du mal à saisir le texte et les chiffres. Trois problèmes ont fait de la reconception des synthèses une véritable gageure : (i) les participants avaient une compréhension médiocre de l’évaluation systématique ; (ii) ils attendaient des informations que les évaluations systématiques ne contenaient pas et (iii) ils souhaitaient des synthèses plus courtes et plus précises. Les solutions comprenaient l’ajout d’informations afin de mieux saisir la nature d’une évaluation systématique, un surcroît de références, la rédaction d’un contenu plus clair ainsi qu’une analyse plus rapide du document.

Conclusion La présentation d’éléments de preuve provenant d’évaluations systématiques aux responsables de la santé dans les pays à revenu faible ou intermédiaire sous forme de brèves synthèses peut faciliter l’assimilation des informations et les rendre plus utiles, mais ces synthèses doivent être comprises, faciles à lire ou rapidement analysables. Elles doivent également expliquer la nature des informations fournies par les évaluations systématiques et leur pertinence en matière de décision de politiques.

Резюме

Типовая форма отчета, адаптированная к потребностям разработчиков политики в области здравоохранения в странах с низким и средним доходом

Цель Рассказать о том, как организация SUPPORT разработала краткую форму отчета для представления результатов систематических обзоров систематических обзоров политики в странах с низким и средним доходом (СНСД).

Методы Мы провели 21 тест с пользователями в восьми странах с целью обобщить опыт использования ими типовой формы отчета. На основе результатов мы внесли изменения в отчеты и проверили наши выводы путем проведения 13 интервью на этапе последующего наблюдения. Для решения проблем, не учтенных при тестировании пользователей, мы также обратились за помощью к экспертам и провели семинары для рабочих групп.

Результаты Разработчиками политики понравилась нумерованная форма входящего документа (т. е. краткое резюме с основными выводами, вынесенным в начало). Они особенно высоко оценили раздел о возможностях применения резюме в СНСД, который компенсировал отсутствие привязки к местным условиям в первоначальном обзоре. Некоторые с трудом воспринимали текст и цифры. Три проблемы создавали особые трудности при доработке резюме: (i) участники плохо понимали, что такое систематический обзор; (ii) они ожидали информации, которая не содержится в систематических обзорах и (iii) они хотели, чтобы резюме были короче и изложены более понятным языком. Для решения этих проблем в текст была добавлена информация, помогающая понять особенности систематического обзора, увеличено число ссылок, содержание упрощено, и документ был приспособлен для быстрого просмотра.

Вывод Представленное данные систематических обзоров разработчикам политики в СНСД в форме кратких резюме может облегчить восприятие информации и сделать ее более полезной, но резюме должны быть понятными и удобными для быстрого прочтения или просмотра. В них также должны быть объяснены характер информации, содержащейся в систематических обзах, и ее полезность для принятия политических решений.

Resumen

Resúmenes de datos diseñados para los responsables políticos sanitarios de los países de ingresos medios y bajos

Objetivo Describir cómo la colaboración SUPPORT ha desarrollado un formato de resumen breve que presenta los resultados de las revisiones sistemáticas para los responsables políticos en los países de ingresos medios y bajos (PIMB).

Métodos Hemos llevado a cabo 21 pruebas de usuario en seis países distintos, con el fin de conocer las experiencias de los usuarios con este formato de resumen. Hemos modificado los resúmenes en función de los resultados y hemos comprobado nuestras conclusiones mediante 13 entrevistas de seguimiento. Con el fin de solucionar los problemas que las pruebas de usuario evidenciaron, hemos consultado la opinión de un grupo de asesores y hemos llevado a cabo talleres de grupos de trabajo.

Resultados A los responsables políticos les gustó el formato de entradas clasificadas (es decir, un resumen breve con los mensajes clave al principio). Valoraron positivamente el apartado sobre la importancia de los resúmenes para los PIMB, que compensaba la falta de información más detallada con interés local en la revisión original. A algunos les costó trabajo entender el texto y los números. La reestructuración de los resúmenes resultó especialmente compleja por tres cuestiones en particular: (a) los participantes contaban con escasos conocimientos sobre lo que era una revisión sistemática; (b) esperaban disponer de información que no se incluye en las revisiones sistemáticas y (c) preferían resúmenes más cortos y claros. Entre las posibles soluciones se encontraban la
de añadir información para ayudar a entender el concepto de revisión sistemática, añadir más referencias y hacer que el contenido resultara más claro y que el documento pudiera escansarse más rápido.

Conclusión
La presentación de los datos extraídos de las revisiones sistemáticas a los responsables sanitarios de los PIMB en forma de resúmenes breves puede contribuir a que la información resulte más fácil de asimilar y más útil, si bien los resúmenes deben ser claros, así como fáciles y rápidos de leer. También deben explicar la naturaleza de la información que se facilita en las revisiones sistemáticas y su relevancia para la toma de decisiones sobre políticas sanitarias.

References
5. Greenhalgh T. Papers that summarise other papers (systematic reviews and meta-analyses). BMJ 1997;315:672–5. PMID:9310574
8. Lewis JN, Davies HTO, Gruen RL, Walshe K, Fanuurah CM. Working within and beyond the Cochrane Collaboration to make systematic reviews more useful to healthcare managers and policy makers. Healthc Policy 2006;2:1–33. PMID:13955650
32. Rosenbaum IMS [Internet]. GRADEpro (GRADEprofiler) is the software used to create summary of findings (SoF) tables in Cochrane systematic reviews. Oxford: The Cochrane Collaboration. Available from: http://www.cc-ims.net/review/gradepro/gradeopro. [accessed 8 November 2010].
33. SUPPORT Collaboration [Internet]. How SUPPORT summaries are prepared. SUPPORT Available from: http://www.support-collaboration.org/summaries/methods.htm [accessed 8 November 2010].
42. EvidenceBoost [Internet]. Ottawa: Canadian Health Services Research Foundation. Available from: www.chsrf.ca/mythbusters/eb_e.php [accessed 8 November 2010].