

The bigger the word, the more frequently it was used in a response.

Led by:

Harriet MacLehose, Senior Editor | Cochrane Editorial Unit

John Hilton, Editor | Cochrane Editorial Unit

David Tovey, Editor in Chief | Cochrane Editorial Unit, *The Cochrane Library*

Theme leaders:

Lorne Becker, Director of Cochrane Innovations, and Cochrane Web Liaison Consultant

Lucie Binder, Project Support & Business Communications Officer | Cochrane Operations Unit

Jackie Chandler, Methods Co-ordinator | Cochrane Editorial Unit

Sophie Hill, Co-ordinating Editor | Cochrane Consumers and Communication Group

Toby Lasserson, Senior Editor | Cochrane Editorial Unit

Harriet MacLehose, Senior Editor | Cochrane Editorial Unit

Chris Mavergames, Web Operations Manager/Information Architect | Cochrane Web Team

Rachel Marshall, Editor | Cochrane Editorial Unit

Deborah Pentesco-Gilbert, Publisher | John Wiley & Sons, Ltd

Working parties:

Themes 1 & 2: Graziella Filippini, Jordi Pardo Pardo, Nicole Skoetz, Lori Tarbett, Denise Thomson, Peter Tugwell, and Taryn Young

Theme 4: Nicky Cullum, Paul Garner, Rachel Churchill, and Julian Higgins

Theme 5: Ruth Foxlee, Paul Garner, Sally Hopewell, Mona Nasser, Nathan Pace, Karla Soares-Weiser, and Peter Tugwell

Theme 6: Mike Clarke, Katrina Williams, Simon Lewin, and Peter Tugwell

Acknowledgements:

We thank all the people who completed the survey about the future of *The Cochrane Library*. We are also grateful to those who agreed to our invitation for an interview. We also thank those people involved in the theme working parties and projects.

Executive summary

This Strategic Session on ‘Cochrane content’ provides an opportunity for The Cochrane Collaboration to reflect on its achievements and challenges ahead in relation to its primary purpose – to conduct and publish high-quality systematic reviews. This occasion is therefore of enormous importance in seeking to assure the long-term sustainability of the Collaboration.

We decided to refer to ‘Cochrane content’ to ensure that we maintained an appropriately broad focus: not just Cochrane Reviews, but all the databases included in *The Cochrane Library*, and derivative products aimed at our various audiences.

A further principle was to ensure that we were informed by the perspectives of a very broad range of stakeholders, inside and outside The Cochrane Collaboration.

The purpose of the preparation work has been to answer the questions:

1. How successful are we in producing content that meets the needs of users?
2. What do we need to know, and how can we adapt what we do, to ensure that Cochrane products are more successful in meeting the needs of users and funders?

The purpose of the strategic session is to prioritise recommendations relating to *The Cochrane Library*, particularly the *Cochrane Database of Systematic Reviews*, Cochrane Reviews, and derivative products to inform the direction of work for the next three to five years for the Cochrane Editorial Unit and editorial teams, the publisher of our products, and The Cochrane Collaboration as a whole.

How we have prepared for the Strategic Session

Themes

We divided the areas of interest into six themes. The themes focus on products and users (themes 1 to 3) or Cochrane Reviews (themes 4 to 6):

1. *The Cochrane Library*: continuing its development as the world’s leading library of evidence
2. *Cochrane Database of Systematic Reviews (CDSR)*: relevance, coverage, and user and author experience
3. New formats and derivative products
4. Cochrane Reviews: methodological quality and readability
5. Cochrane Reviews: updating
6. Cochrane Reviews: innovative reviews and methodology

For each theme we identified one or more leaders and a working party. We asked the leaders to identify the most important issues and develop them into a set of questions where the answers could be formulated into recommendations.

Survey and stakeholder interviews

We used the theme questions to develop a survey, which we posted online and publicised on 7 February 2012. By 27 February 2012, when we extracted data for this report, 733 people from over 60 countries had completed one or more of the questions in the survey (in addition to the mandatory introductory questions).

Of the survey respondents, 30% are ‘external’ to Cochrane, most reported their main occupation as clinical or non-clinical researcher or a health professional, most described their main relationship with *The Cochrane Library* as a reader or user, and 73% are Cochrane Review authors.

At the same time we contacted 48 stakeholders concentrating on people from outside the Collaboration and covering a range of stakeholder groups, including funders, strategic partners, frequent users, policy-makers, and

journal editors. We invited them to participate in an interview, nominate a colleague for an interview, or complete the survey. We had a positive response to these invitations, and 16 people took part in a telephone or face-to-face interview.

Theme-specific projects

For the methodological quality and readability theme, we undertook three projects aimed at providing some evaluation of our current content. Firstly, we repeated an audit of abstracts, plain language summaries, and Summary of findings tables that we originally conducted in early 2011, looking at Cochrane Reviews published in Issue 10, 2011. Secondly, we undertook a baseline audit of the risk of bias elements of the Methodological Expectations of Cochrane Intervention Reviews (MECIR) project, studying Cochrane Reviews published in Issue 10, 2011. Finally, we asked a panel of scientific writers and editors to review a cohort of Cochrane Reviews and to provide feedback on issues relating to readability.

For the updating theme, we built on the work of our NHS Engagement Award, funded by the UK National Institutes of Health Research, in which we piloted ways of prioritising Cochrane Reviews for updating using a needs-based framework and a statistical tool developed by Yemesi Takwoingi, Sally Hopewell, and Alex Sutton. We also conducted a pilot of a framework for classifying Cochrane Reviews in *The Cochrane Library*, by whether the review addresses a historical or current question, and whether it is considered up to date, has an update is pending, or is not intended to be updated.

What did we find?

We can divide the findings from the six themes of work into: creation of high-quality, high-impact content; and dissemination and knowledge translation.

Creation of high-quality, high-impact content

Stakeholders identified adherence to strict quality standards as the most important ‘selling point’ of Cochrane (Themes 1 and 2). They also commented on the value of the Collaboration’s perceived independence from commercial funding, and its focus on creating a broad, inclusive international community. From the survey responses we find that 97% would recommend *The Cochrane Library* to friends or colleagues, and 96% of respondents feel that their experience of *The Cochrane Library* is good or very good (Theme 1). It is clear that this reputation has been hard won and must be protected.

Our users identify the following characteristics as important:

- Prioritising Cochrane Reviews that reflect the questions asked by decision-makers: consulting stakeholders in prioritisation is seen as a necessity. (Theme 2)
- Prioritising updates on the basis of need, rather than the current ‘one size fits all’ model. (Theme 5)
- Recognising the different needs of different users. (Themes 1 to 3)
- Prioritising work to improve and develop the quality of abstracts and plain language summaries in Cochrane Reviews. (Theme 4)
- Addressing quality issues in Cochrane Reviews identified by the readability advisers, including the quality of copy-editing. (Theme 4)
- Implementing the MECIR conduct and reporting standards. (Theme 4)
- Including a GRADE assessment and Summary of findings table in most, if not all Cochrane Reviews. Many stakeholders, particularly super-users, including those representing the World Health Organization and other guideline developers, now consider this to be an essential aspect of the process for most reviews. (Theme 2)
- Including non-randomised studies to evaluate harms, and also other outcomes where the data from randomised controlled trials is inadequate. (Theme 6)
- Addressing the needs of users and stakeholders from low- and middle-income settings more effectively, by ensuring content is accessible for users with low-bandwidth internet access, improving the access to

content in languages other than English, and making relevant information more prominent in Cochrane Reviews. (Theme 2)

There was support, but no consensus, for including additional material to enhance Cochrane Reviews, such as qualitative information, and economic summaries (Theme 6). Similarly, many correspondents were enthusiastic about including new review types, such as multiple treatment meta-analyses, prognosis, economic, and qualitative, while others worried that Cochrane might lose its focus, that the methods were not yet developed for some of these review types, and that the impact on Cochrane Review Groups (CRGs) would be substantial. We propose that the discussions during the Strategic Session around innovative reviews and methods form part of a much longer trajectory aimed at defining a cautious but positive strategy, one that is permissive rather than authoritarian, and which does not risk overwhelming editorial teams or damaging either the brand or the existing product. Successful implementation therefore requires a combination of methods development, enthusiastic review authors and CRGs, and technological advances; none of these requirements in isolation can deliver the changes.

If a needs-based approach is the key to future updating, there is the obvious question of how Cochrane Reviews are prioritised for updating (Theme 5). The survey responses clearly indicate that respondents are accepting of a decision not to update in circumstances where an intervention has been withdrawn, superseded, or shown to be ineffective. There is considerably less support for such a decision to be made for reviews that have been poorly cited or accessed. However, CRGs will inevitably have to make tough decisions on how to allocate scarce (and usually public) resources. As part of the Strategic Session preparations, we asked CRGs to pilot the needs-based and statistical tools mentioned above, and we will present their experiences in the Strategic Session.

Importantly, we asked stakeholders about the potential impact of incorporating such changes on overall Cochrane Review numbers (eg the possibility of fewer more comprehensive and higher-quality reviews). Stakeholders have predictably mixed responses, although funders and external stakeholders are perhaps more positive than we might have expected.

Dissemination and knowledge translation

Our users favour continued improvements to the presentation and delivery of our online presence. For *The Cochrane Library*, we will enhance the search functionality, explore ways of prioritising, customising, and enhancing the website interface, and link the component databases (Themes 1 and 2).

There is also a desire for content to be available via a range of routes and formats other than having to go directly to *The Cochrane Library*. These include Journal Clubs, tailored summaries, and different media such as Podcasts, smart phone and tablet applications, and video.

Specific to the *Cochrane Database of Systematic Reviews* (CDSR), there is support for the inclusion of different types of article, including commentaries, methods articles, and reviews in progress (registered review titles). Our users also favour expanding the range of article metrics available for each Cochrane Review, and, in particular, to link out to guidelines including a Cochrane Review (Theme 2).

Some of our users support a policy that ensures that key Cochrane Reviews are disseminated to specific user groups. To achieve this we were impressed to hear that one CRG prepares an explicit dissemination plan for each published review.

Finally, the theme on new formats and derivative products (Theme 3) identifies opportunities for utilising semantic web technologies to improve the service provided to users. These require further exploration in order to exploit the full potential.

Conclusion

The Cochrane Collaboration has many achievements to its name and these include the range of Cochrane content products, including Cochrane Reviews and the *CDSR*, *The Cochrane Library*, and derivative products.

High-quality content is a crucial element of the success of Cochrane, but we need to ensure a broad view of quality encompassing methodological rigour and application, relevance and applicability, and readability accessibility.

The sustainability of the Cochrane brand also requires us to prioritise and measure the impact of Cochrane Reviews, such as influencing policy and practice.

Finally, although outside the terms of this work, we need to build on our strategic partnerships and focus on engaging with stakeholders and potential contributors. One aspect of this – the Cochrane editorial process – is already identified as an area which we need to address if we are to attract and nurture new and enthusiastic researchers.

Recommendations

Theme 1. *The Cochrane Library*: continuing its development as the world's leading library of evidence

1. Work with our publisher to publicise all the **access options for *The Cochrane Library*** available with our current publishing model, extend the range of new national or regional licences, and explore new access arrangements.
2. Continue to work with our users, publisher, and others to explore the potential for **prioritising developments** of *The Cochrane Library* for specific user groups and **customising *The Cochrane Library*** for different user groups or preferences.
3. Work with our publisher on **improving *The Cochrane Library* website** by (1) making it easier to navigate, improving the 'look and feel' of the interface and making it more user friendly, and reducing the amount of time the website is off-line and the number of technical faults; (2) reviewing the specific changes suggested by our users as ways of improving the user experience; (3) continuing to clarify the messaging across the different Cochrane websites; and (4) building on the work presented in the 2011 digital strategy report.
4. As part of the ongoing **search improvements for *The Cochrane Library***: (1) make it easier to search and more user friendly (eg availability of contemporary search assistance such as auto-correct and auto-complete); (2) enhance the advanced search options (eg Medical Subject Headings (MeSH) searching and more flexible options for the construction of complex search strings); and (3) improve the display and download options for search results.
5. Maintain the current **range of databases** in *The Cochrane Library*, but review this periodically, and explore ideas about including additional databases specific to one or more of the key stakeholder groups (eg policy-makers) and new ways of interacting with related databases (eg via federated searches).
6. Continue the work started by the Cochrane/Wiley/Ontoba 'Star Trek' team **linking CENTRAL records with Cochrane Reviews** with a defined work plan and roll-out date for this enhanced functionality.
7. Continue to prepare and publish **added-value features** (Editorials, Special Collections, Journal Club, Podcasts, and the *Cochrane Database of Systematic Reviews* browse list), but explore ways to make these more useful to our users, increase awareness of these features, and continue to evaluate them.
8. Include in the marketing communications strategy and plan strategies to **raise awareness of *The Cochrane Library*** and increase usage of content, and monitor website user statistics to help evaluate the success of these strategies.

Theme 2. *Cochrane Database of Systematic Reviews*: relevance, coverage, and user and author experience

9. **Prioritise topics for Cochrane Reviews**, ensure transparency around how topics are prioritised, and provide opportunities for our users and stakeholders to be involved.
10. **Change the article-level display of Cochrane Reviews** to make key messages clearer, improve readability, and improve the ways people can navigate, print, and differentiate between the versions.
11. **Promote the use of Cochrane Reviews** more by targeting user groups, linking up with specialty organisations, sharing impact stories.

12. Continue to **improve the summaries** in Cochrane Reviews (abstracts, plain language summaries, and Summary of findings tables); see *Methodological quality and readability theme*.
13. Explore a series of changes in two areas to improve how we meet the **needs of readers and users from low- and middle-income countries**:
 - **Prominence of relevant information**: prioritise and highlight relevant Cochrane Reviews, and improve the information reported in reviews about setting and context;
 - **Access**: continue to improve access to Cochrane Reviews, make reviews easy to view on mobile phones, ensure the *Cochrane Database of Systematic Reviews (CDSR)* is fast with lower bandwidth internet access, and improve the translation of content.
14. **Improve how we meet the needs of non-English language users** by developing a translation strategy for Cochrane Reviews that focuses on translating key sections of Cochrane Reviews, signposting the translated content, exploring the capacity of web-based translation services, and developing search interfaces for other languages.
15. Expand the **range of article types** in the *CDSR* to **include registered review titles**; and work with the, editorial teams, methods groups, and publisher to **evaluate the potential to include methodological articles and commentaries**.
16. Increase the range of **article metrics** to include (1) use in guidelines (eg links to guidelines that include the review), (2) number of citations for the Cochrane Review (eg number of times cited in PubMed Central or Google Scholar), and (3) article access statistics (eg number of times review viewed). We recommend that we conduct a focus group with a range of different users before deciding whether to include social bookmarking metrics.
17. **Evaluate the case for moving from a monthly to a ‘publish when ready’ model** for Cochrane Reviews, and communicate and implement the final decision by 2013.

Theme 3. New formats and derivative products

Development of our online presence and related messaging

18. Continue to pursue a **co-ordinated approach in developing our web presences** in *The Cochrane Library* and across The Cochrane Collaboration’s websites.
19. Enable **users of our websites to find easily the Cochrane content that is most relevant to them**, by improving search and browse functions and by increasing the linkages.
20. **Enrich the user experience** by exploring potential relationships between, and finding ways to link, related components of our various Cochrane products.
21. Ensure that **branding, key messages, and ‘look and feel’ are consistent** across the Cochrane web universe.

Engagement of new users via different presentation models and delivery vehicles

22. **Continue to develop existing derivative products** such as Cochrane Clinical Answers and education content including the Cochrane Journal Club and Dr Cochrane.
23. Explore opportunities for developing **additional new platforms and media for providing Cochrane content** to new or existing users.

24. **Structure Cochrane processes and develop new tools** that will enable production of **core Cochrane content in a way that enables its flexible use in a variety of formats and products.**

Moving towards the semantic web

25. **Recognise that portions of Cochrane Reviews will be used outside the review in various forms and contexts.** The Cochrane Collaboration should become more proactive about this process and design Cochrane content and our content creation processes to facilitate and guide usage of this type.
26. **Identify ‘core’ pieces of a Cochrane Review** and design them in a way that will make them useful if viewed apart from the rest of the review.
27. Develop **appropriate criteria for presenting portions of Cochrane content** in other contexts.

Theme 4. Cochrane Reviews: methodological quality and readability

28. **Develop an auditing tool from the set of Methodological Expectations of Cochrane Intervention Reviews (MECIR) and the related reporting standards,** undertake a full baseline audit of reviews against MECIR standards, and make the audit findings and the audit tool available via the MECIR website to allow more widespread use.
29. **Improve familiarity and consistent adherence to the MECIR conduct and reporting standards** by (a) embedding in author training materials; (b) developing training materials for editors that promote the evaluation of Cochrane Reviews and Cochrane Protocols against the standards; and (c) ensuring that common errors and good practice feature in both streams of training.
30. **Develop Review Manager (RevMan) to support explicitly the implementation of MECIR conduct and reporting standards,** and the most current advice from the *Cochrane Handbook for Systematic Reviews of Interventions*, by: (a) displaying methodological requirements prominently when Cochrane Protocols or Cochrane Reviews are being drafted or edited; (b) linking relevant Handbook chapters to specific parts of RevMan; (c) allowing the presentation of risk of bias graphs in forest plots to encourage authors to consider the impact of risk of bias judgments explicitly on an outcome-by-outcome basis; (d) enabling the linking of numerical data in analysis and Summary of findings tables to other parts of the review; and (e) enabling compatibility with external web-based critical appraisal and data extraction tools.
31. **Improve readability of Cochrane Reviews by developing training materials** for authors and editors to emphasise the importance of transparent, concise, and consistent writing.
32. **Improve readability of Cochrane Reviews by agreeing an action plan to improve the quality of abstracts and plain language summaries.** This should, where possible, aim to use information from Summary of findings tables to improve their clarity and in particular present information that accurately conveys effect size in absolute terms and the quality of evidence.
33. **Improve readability by developing a readability work stream** to cover and join up copy-editing, technical editing, and improving article-level changes in published Cochrane Reviews.

Theme 5. Cochrane Reviews: updating

34. **Prioritise Cochrane Reviews for updating at least every two years, using methods such as the Updating prioritisation tool or the Updating decision tool.** No single method of prioritisation should be prescribed, but processes could be developed and adapted to provide the most value to readers. Prioritisation processes could focus on updates, or incorporate titles and protocols.

35. **Replace the current guidance to update all Cochrane Reviews every two years, in favour of prioritising updates (see above).** Cochrane Reviews that are not identified as a priority for updating would not be updated in the following two-year period.
36. Ensure **decisions around prioritisation are transparent** to readers.
37. **Classify Cochrane Reviews of interventions using the classification framework, at least every two years.** The framework, to be published on the *Cochrane Database of Systematic Reviews*, highlights to readers whether a Cochrane Review addresses a historical or current question, and also indicates whether the Cochrane Review is considered up to date, has an update is pending, or is not intended to be updated.

Theme 6. Cochrane Reviews: innovative reviews and methodology

38. **Conduct further internal and external consultation, and evaluation,** to enable The Cochrane Collaboration to make a strategic decision on continuing with (1) **methodological enhancements to Cochrane Reviews of interventions** (eg qualitative syntheses), and whether to introduce (2) **additional types of Cochrane Reviews addressing a broader set of questions (e.g. explanatory).**
39. Move towards **including non-randomised studies in Cochrane Reviews for harms** and potentially where evidence for key benefits is weak; however, we do not recommend this where randomised controlled trials are feasible and would be valuable in addressing an important uncertainty.

Provisional programme for the Strategic Session

We have designed the programme to encourage the widest possible inclusion and active participation.

0830 to 0900	Refreshments
0900 to 0915	Welcome, opening plenary, and general questions
0915 to 0945	Overview of themes 1 and 2: <ol style="list-style-type: none"> 1. <i>The Cochrane Library</i>: continuing its development as the world's leading library of evidence 2. <i>Cochrane Database of Systematic Reviews (CDSR)</i>: relevance, coverage, and user and author experience
0945 to 1045	Small groups to discuss themes 1 and 2, and return to plenary to share findings
1045 to 1230	Workshops for themes 3 to 6: <ol style="list-style-type: none"> 3. New formats and derivative products 4. Cochrane Reviews: methodological quality and readability 5. Cochrane Reviews: updating 6. Cochrane Reviews: innovative reviews and methodology
1130 to 1200	Refreshments (mid-workshop)
1230	Closing plenary and action plan

À bientôt!