BACKGROUND

From MAGIC to WikiRecs and the BMJ Rapid Recommendations project

Systematic reviews and clinical practice guidelines are key vehicles for translating research knowledge into practice. However, organisations creating systematic reviews and guidelines often struggle to deliver timely and trustworthy recommendations in response to potentially practice-changing evidence.

Making GRADE the Irresistible Choice (MAGIC) is a non-profit research and innovation programme (www.magicproject.org). It was created to address key issues with authoring, publication, and updating of clinical practice guidelines. Through our online authoring and publication platform (http://www.magicapp.org), clinicians can access digital multilayered evidence summaries, recommendations, and consultation decision aids.(1) Although an increasing number of guideline organisations are using electronic authoring platforms like MAGICApp, challenges that go beyond dissemination remain. There is a need for overarching solutions to close the loop from evidence production, through synthesis, dissemination and implementation, ultimately resulting in documented improved care, increased value and reduced waste of healthcare resources.

MAGIC launched the WikiRecs (Rapid Recommendations and Evidence summaries Composed as Synopses) project to circumvent traditional organisational barriers of guideline development. Through an international multidisciplinary network of stakeholders, we aim to synthesise and disseminate evidence summaries and recommendations through MAGICapp within 90 days of publication of potentially practice changing evidence. The MAGIC organisation has also partnered with top medical journals to increase the reach of the recommendations.

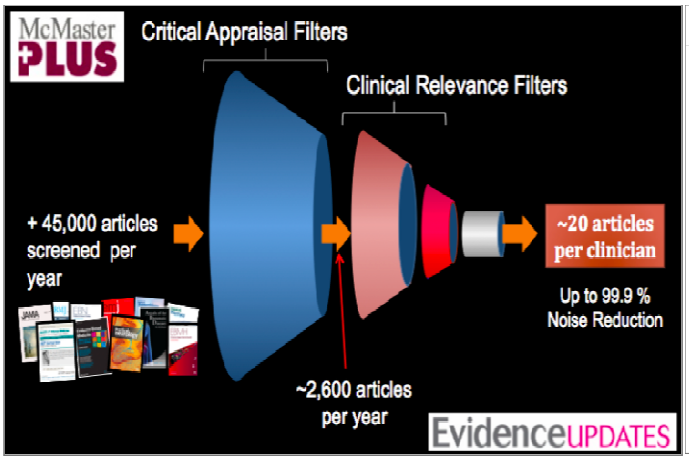
In the BMJ Rapid Recommendations project (also known as BMJ RapidRecs), the MAGIC WikiRecs group has partnered with The British Medical Journal (BMJ) to publish rapid recommendations as a synopsis paper in the BMJ, along with one or more systematic reviews linked to the recommendations.(2) The BMJ Rapid Recommendation package includes parallel publication of a multilayered electronic publication in MAGICapp, a synopsis and infographic published in The BMJ, and the systematic reviews that informed the recommendation in BMJ group Journals (BMJ, BMJ Open, and/or others). Here we outline the process and methods applied to translate evidence into evidence summaries, recommendations, and consultation decision aids for clinical practice.

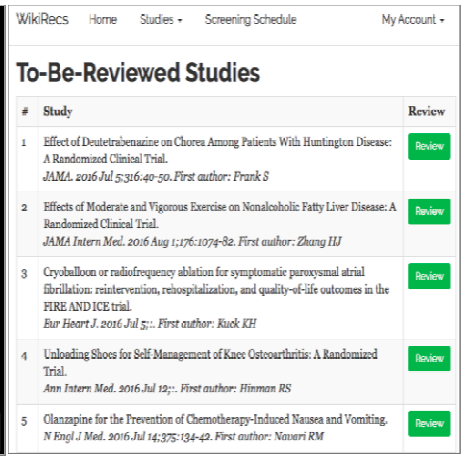
PROCESS

Process overview

BMJ RapidRecs follows a predefined protocol with the following steps, developed in collaboration between the WikiRecs group and the BMJ:

1) We monitor the literature for practice-changing evidence through McMaster Premium LiteratUre Service (PLUS).





2) The WikiRecs executive and the BMJ choose which clinical questions to pursue, based on relevance to a wide audience and likelihood to change current practice.

3) We incorporate the evidence into the existing body of evidence and broader context of clinical practice by:

- Performing a systematic review and meta-analysis on the benefits and harms with a focus on all critical outcomes and considerations that matter to patients.
- Convening an international panel of patient advisers, frontline clinicians, clinical specialists and methodologists to make the recommendations based on said systematic review.
- The systematic review group and the recommendation panel will adhere to standards for trustworthy guidelines(3, 4) and apply the GRADE approach.(5)

Additional research may be conducted, if requested by the guideline panel, including:

- A systematic review of observational studies to identify baseline risk estimates that most closely represent the relevant population. A certain baseline estimate is a key component when calculating the absolute effect of an intervention.(6)
- A systematic review on the typical patient preferences and values, and their variations.(7)

4) Dissemination of the recommendations through:

- Publication of a short recommendation summary in the BMJ.
- Publication of the systematic review(s) in BMJ group journalsPress release and/or marketing to media outlets and relevant parties such as patient groups.
- Links to the BMJ Group's Best Practice point of care resource.
- Publication in full through MAGICapp (for readers wishing to examine in more detail the underlying evidence and rationale and considering local adaptation).(1)

Figure 1: Flowchart of stepwise process in BMJ RapidRecs

Who is involved?
Researchers, systematic review and guideline authors, clinicians, and patients often work in isolation. Academic journals may publish work from any one or combinations of these groups of people, but these groups seldom work together to produce a comprehensive package.

Our collaboration involves:

- The core MAGIC WikiRecs network of researchers coordinating the systematic review group and the recommendation panels.
- The BMJ, which coordinates the editorial process, publishes a synopsis of the recommendations, and help develop user-friendly infographics linking to the MAGICapp for all underlying content.

METHODS FOR THE PRODUCTION OF RAPID RECOMMENDATIONS

BMJ RapidRecs adhere and exceed all standards for trustworthy guidelines with an emphasis on patient involvement, strict management of conflicts of interest, a transparent and systematic process for assessing the quality of evidence, a transparent and systematic process for moving from evidence to recommendations.(3, 4)

Panel member selection and contribution
Panel members are sought and screened through an informal process.
Key considerations for panel composition include:

- At least one but no more than five authors of the underlying systematic reviews.
- At least one patient representative (but ideally more) with lived experience of the disease. This person receives standard patient-oriented training documents to explain the process and one or more patient-liaison panel members help guide the person through the process to empower their contribution.
- A full spectrum of practicing healthcare workers involved in the management of the clinical problem, including frontline practitioners with generalist experience and those with content clinical and research expertise.
- Methodological experts in health research methodology and guideline development.

Any potential conflicts of interest are managed with prudence:

- No panel member may have a financial interest that is judged by the panel or the BMJ team as relevant to the topic.
- Very few panel members can have any intellectual conflict of interest.
- Professional conflicts of interest are minimised and balanced.

Illustrative example: For this BMJ Rapid Recommendation on for arthroscopy for degenerative knee disease, no persons had any financial stake in the recommendations. Two members were judged to have potential intellectual conflicts of interest because they had previously been involved with local guidelines on a related topic (arthroscopic surgery for knee osteoarthritis) informed by older literature. We included three orthopaedic surgeons, who may have a professional conflict, but we also included three patients, three physiotherapists, a rheumatologist, and several generalist physicians to counterbalance any possible professional conflicts.

Meetings and working process

The panels communicate via teleconferences and e-mail exchange of written documents throughout the process. Minutes from teleconferences are audiotaped, transcribed and stored for later documentation (available for peer-reviewers at request).

There will be two or three teleconferences:

- At the initiation of the process to provide feedback on the systematic review protocol (e.g. selection of patient important outcomes and appropriate prespecified analysis of results).
- When the Chair and the methods editor have drafted a GRADE evidence tables based on the systematic review, to discuss, deliberate and reach agreement on the final evidence assessment.
- When moving from evidence to recommendation, to discuss and agree on the final phrasing of the recommendation, its strength and direction, and the underlying content (e.g. GRADE Summary of Findings table, key information, rationale, practical advice).

Lastly, the panel members are invited by e-mail to provide feedback on the final draft before submission to the BMJ. The full panel further reconsiders any substantive changes through the peer review process.

From research to recommendation

What information will be considered?

The panel considers best currently available evidence. Beyond systematic reviews performed in the context of the BMJ RapidRecs, the panel may also consider a number of other research papers or guidelines.

How is a trustworthy guideline made?

The Institute of Medicine (IOM)(8) and the Guidelines International Network (GIN)(4) provide guidance on how trustworthy guidelines should be developed. Table 1 outlines how we aim to meet their trustworthy quality standards for our rapid recommendations.

Table 1: Summary of Institute of Medicine 8 standards for trustworthy guidelines and how the BMJ RapidRecs will meets these standards.

1. Establishing transparency *("The processes by which a CPG is developed and funded should be detailed explicitly and publicly accessible"*)*
● The method for BMJ RapidRecs is published as a supplementary file in the BMJ as well as in MAGICapp. ● Peer-reviewers judge the trustworthiness of the recommendations, and the panel will respond to any concerns raised. ● All funding will be reported. We will not use industry funding or any other funding from sources that could bias the recommendation.
2. Managing conflicts of interest *("Prior to selection of the guideline development group, individuals being considered for membership should declare all interests and activities potentially resulting in COI with development group activity....")*
● The interests of each panel member are declared on a detailed and standardised form prior to involvement and published with the recommendations. ● Potential financial interests in the past three years, or forthcoming 12 months will preclude participation - as judged by the panel Chair, WikiRecs Executive, and The BMJ. ● Intellectual conflicts include having already taken a position on the issue, for example by a written editorial or commentary, conflicts related to performing a primary research study or authoring a previous systematic review on the topic. ● The Chair must have methods expertise, a clinical background, and no financial or intellectual interests. ● Funders and industry have no role in these recommendations. ● Professional conflicts of interest will be reported and minimised
3. Guideline Development Group Composition *("The guideline development group should be multidisciplinary and balanced, comprising a variety of methodological experts and clinicians, and populations expected to be affected by the CPG")*
● BMJ RapidRecs will aim to include representation from most or every major geographic region in the world, with specific efforts made to achieve gender balance. ● We will enable patient and public involvement by including patient representatives. We will furthermore make use of systematic reviews on values and preferences to guide outcome choices and relative weights of each outcome, where available. ● Patient representatives will be given priority during panel meetings and will have an explicit role in vetting final judgements on values and preferences. ● The guidelines will include all relevant healthcare worker stakeholders, including allied healthcare professionals
4. Clinical Practice Guideline–Systematic Review Intersection

("CPG developers should use systematic reviews that meet standards set by the IOM. Guideline development group and systematic review team should interact regarding the scope, approach, and output of both processes".

- Each rapid recommendation will be based on one or more linked credible systematic reviews, which will be developed and published in parallel with our recommendation or produced by other authors and reporting sufficient detail to fully trust the review
- The recommendation panel and SR teams will interact, with up to five members participating on both teams to facilitate communication and continuity in the process.

5. Establishing Evidence Foundations for and Rating Strength of Recommendations
("For each recommendation: explain underlying reasoning, including a clear description of potential benefits and harms, a summary of relevant available evidence and description of the quality., explain the part played by values, opinion, theory, and clinical experience in deriving the recommendation, "provide rating of strength of recommendations")

- We will apply the GRADE framework for establishing evidence foundations and rating the strength of recommendations. For each recommendation, systematic and transparent assessments are made across the following key factors:
    - The balance between the absolute benefits and harms for all patient-important outcomes.
    - Overall quality of the evidence.
    - The typical patient values and preferences and their expected variations.
    - Resources and other considerations (e.g. feasibility, applicability, equity).
- Each outcome will - if data are available through systematic reviews - include an effect estimate and confidence interval, with a measure of certainty in the evidence, as presented in GRADE Summary of Findings tables. If such data are not available narrative summaries will be provided.
- A summary of the underlying reasoning and all additional information (e.g. key factors, practical advice, references) will be available in *the BMJ-RapidRecs* article with full content available online in an interactive format at www.magicapp.org. The summary includes descriptions of how theory (e.g. pathophysiology) and clinical experience played into the evidence assessment and recommendation development.
- Recommendations will be rated either weak or strong, as defined by GRADE.
- If the panel disagrees on the evidence assessment or grading of the recommendations, we will follow a structured consensus process customised to the GRADE system and report any final differences of opinion, with their rationale, in the online supplement and at www.magicapp.org.

6. Articulation of recommendations
("Recommendations should be articulated in a standardized form detailing precisely what the recommended action is, and under what circumstances it should be performed, and so that compliance with the recommendation(s) can be evaluated")

- Each recommendation will appear at the top of the infographic in the BMJ and be

available in standardised formats in MAGICapp.
- The recommendations will be actionable.
- Each summary article in the BMJ will include a statement that these are guiding recommendations. They do not form a mandate of action and should be contextualised to the relevant healthcare system and individual patients.

7. External review

("External reviewers should comprise a full spectrum of relevant stakeholders...., authorship should be kept confidential....., all reviewer comments should be considered....a rationale for modifying or not should be recorded in writing.... a draft of the recommendation should be made available to general public for comment..")

- At least two external peer-reviewers and one patient reviewer will review the recommendation for the BMJ. They will have access to all underlying, online information. They will be asked for general feedback and to assess the trustworthiness of the guideline.
- A BMJ series adviser with methodological and/or statistical expertise will review the BMJ RapidRecs publication and the systematic reviews.
- The panel will be asked to read and respond to the peer review comments and make amendments where reasonable.
- The BMJ and WikiRecs team may, on a case-by-case basis, choose to invite key organisations, agencies, or patient/public representatives to provide and submit public peer-review.
- There will be post-publication public review process where people can provide comments and feedback through theBMJ.com. The Chair will strive to, on behalf of panel members, respond to each publicly available peer-review within 30 days, for a period of six months after publication.

8. Updating

("The date for publication, systematic review and proposed date for future review should be documented, the literature should be monitored regularly and the recommendation should be updated when warranted by new evidence")

- The panel will monitor new research evidence for a published BMJ RapidRecs, aiming to update the recommendation when new evidence suggest a need for change in practice. When relevant, updates will be performed in MAGICapp and submitted to the BMJ for consideration of an updated publication.

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