Framework to describe intervention implementation (design, delivery, uptake, and context) in systematic reviews

Mayo-Wilson, Evan; Grant, Sean; Montgomery, Paul

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Enhancing the usability of systematic reviews by improving the consideration and description of interventions

Tammy C Hoffmann,[1] Andrew D Oxman,[2] John PA Ioannidis,[3] David Moher,[4] Toby J Lasserson,[5] David I Tovey,[5] Ken Stein,[6] Katy Sutcliffe,[7] Philippe Ravaud,[8] Douglas G Altman,[9] Rafael Perera,[10] Paul Glasziou[1]

For numbered affiliations see end of article.

Correspondence to: T Hoffmann thoffmann@bond.edu.au

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The importance of adequate intervention descriptions in minimising research waste and improving research usability and reproducibility has gained attention in the past few years. Nearly all focus to date has been on intervention reporting in randomised trials. Yet clinicians are encouraged to use systematic reviews, whenever available, rather than single trials to inform their practice. This article explores the problem and implications of incomplete intervention details during the planning, conduct, and reporting of systematic reviews and makes recommendations for review authors, peer reviewers, and journal editors

Up to 60% of interventions in trial reports are inadequately described, although more information can sometimes be obtained from the authors.[1] When interventions are inadequately described in randomised trials, clinicians and patients must guess how to use effective interventions, and researchers are unable to replicate or build on the research. Another consequence is that the intervention details are not available to the authors of systematic reviews.

Few studies have examined the problem of inadequate description of interventions in systematic reviews. An analysis of 58 systematic reviews of stroke interventions[2] found that most were missing information for the majority of items needed to make an intervention description adequate. For example, details such as the intervention procedure, materials, fidelity, and tailoring were missing from more than 80% of reviews.

Inadequate intervention reporting in trials not only produces avoidable waste for the original trials but is compounded in downstream uses of the trials, such as in systematic reviews, with implications for the reproducibility and usability of the systematic review.

Appropriate use of intervention details in the planning, conduct, and reporting of systematic reviews is facilitated by interventions being well described in trials and other evaluative studies. The Template of Intervention Description and Replication (TIDieR) checklist and guide was developed and published in 2014 to help authors comprehensively describe interventions, with an initial focus on trials.[3] Historically, the development of systematic review techniques, methods, and technologies has focused on aspects such as searching, assessing and reporting risk of bias, and statistical methods. The clinical usability of the results of systematic reviews has had less attention, and the reporting of intervention in reviews almost none.[4]

To identify a common approach for improving the consideration and reporting of intervention details in systematic reviews a group of experts—including systematic review authors, trial authors, journal editors, methodologists, and statisticians with expertise in intervention descriptions, reporting guidelines, trials, and systematic reviews—attended a one day meeting in Oxford in June 2016. Representatives from the following groups also attended: the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) group,[5] the Cochrane Library, the EQUATOR Network, the Template of Intervention Description and Replication (TIDieR) group,[3] the Evidence for Policy and Practice Information and Coordinating (EPPI) Centre, and the NIHR Journals Library. The meeting organisers (TH, PG) invited participants, drafted the agenda, invited presentations, and collected and disseminated background literature. The day consisted of stimulus presentations on key relevant topics and associated research followed by group discussions and recording of discussion points and possible recommendations. In the final session, delegates discussed and collaboratively modified draft recommendations to improve the consideration and

SUMMARY POINTS

- Intervention details are rarely fully considered or completely reported in systematic reviews, limiting the reproducibility and usability of systematic reviews—this is wasteful
- Intervention details are needed in many stages of the review process—from question formulation to decisions about eligibility and analyses, results interpretation, and use of the review findings
- Systematic review authors should give careful consideration to intervention details during the planning, conduct, and reporting of the review, including extracting, requesting, and fully reporting them
- Improving the consideration and description of interventions in systematic reviews, such by providing a summary table with details, is likely to contribute to reducing avoidable waste in health research

description of interventions in systematic reviews until group consensus was achieved. After the meeting, the group members (authors of this paper) refined the final wording of these recommendations, which are reported here.

Recommendations to improve the consideration of interventions when planning, conducting, and reporting systematic reviews

The recommendations that authors of systematic reviews should undertake when planning, conducting, and reporting their reviews are shown in box 1. An elaboration and explanation of each recommendation follows the box. They are applicable to all systematic reviews of studies of intervention effectiveness. Specific recommendations for Cochrane reviews and non-Cochrane reviews are detailed later in this section. For most systematic reviews, many of the recommendations also apply to the comparator intervention with these details needing appropriate consideration and reporting as well.

Box 1: Recommendations for authors to improve the consideration interventions when planning, conducting, and reporting systematic reviews

Planning the review

1 Consider intervention details during question formulation

Use TIDieR[3] to identify any important details of the intervention that will determine the questions that the review will ask, including how broad or narrow the review should be and what the main comparison will be.

2 Describe intervention considerations in the review protocol

Describe the intervention and its relevant components (if multicomponent) and characteristics in the protocol. Relevant protocol sections might include: the review question, background, search terms, eligibility criteria, data items, and quantitative synthesis plans.

Conducting the review

3 Extract intervention details as part of data extraction

Use TIDieR as a guide to the essential intervention characteristics to include in the data extraction form and extract accordingly.

4 Request missing intervention details

When feasible, request missing details from the authors, using TIDieR as a guide to which details to request, and note when details are not available.

5 Consider intervention characteristics during statistical analyses and exploration of heterogeneity when appropriate

Where appropriate and feasible, consider intervention characteristics as specified in the protocol when grouping studies, conducting analyses, and exploring heterogeneity.

Reporting the review

6 Report intervention details in a summary table

Provide a table that summarises the intervention details for each study (see template in web extra 1 and example in table 1).

7 Share intervention materials where possible

Where intervention materials are available, share or provide their location details in the review's intervention summary table.

8 Describe implications for future research

If the summary of intervention details reveals important gaps in existing research or if the analyses identify a significant association between effect and the presence or absence of intervention components or characteristics, then describe the future research implications of this in the review

Recommendation 1—Consider intervention details during question formulation

Many systematic review authors use the PICO format (patient, population or problem; intervention; comparison intervention (if appropriate); outcome of focus) to design their review question. When doing this, the I (intervention, and where necessary, its characteristics; and if a multicomponent intervention, the major components) should be given as much consideration as the other parts. Authors should use TIDieR to identify any important details of the intervention that should determine the questions that the review will aim to answer; for example, which active components are used, the timing of the intervention, the dose, the mode of delivery, or who provides the intervention. Such details will also help to inform the breadth of the review. If a scoping exercise was performed as part of the planning process, summarising the intervention details (such as in a summary table) from studies found in the scoping exercise might help inform this decision. Authors should also carefully consider intervention details when deciding on the main comparison that will be made in the review.

Recommendation 2—Describe intervention considerations in the review protocol

When registering a systematic review title (such as at PROSPERO; www.crd.york.ac.uk/PROSPERO/) and writing a protocol, authors should carefully consider and describe the intervention and its relevant components (if multicomponent) and characteristics. Items in the reporting guideline for systematic review protocols (PRISMA-P) that are particularly relevant to this include: item 7, explicit statement of the review question; 8, eligibility criteria; 10, search strategy; 12, data items; and 15a, criteria for quantitative synthesis.[6] Further details about sections of the protocol relevant to intervention details are provided below:

Background

If relevant, protocol authors should report how consideration of details of the intervention affected the scope of the review and the categorisation of interventions within this scope. Where relevant, authors should also clarify why differences in the details of the intervention might modify its effects; for example, which active components are used, the timing of the intervention, the dose, the mode of delivery, or who provides the intervention.

Objectives

Intervention details might determine the main comparisons that will be made and should be considered when deciding on the review's objectives.

Eligibility criteria

Intervention details might be part of inclusion or exclusion criteria and should be clearly stated. When intervention details in potentially eligible studies are not stated or not clear, this step in a review can be compromised.

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Data extraction

Protocols should include plans for collecting sufficient details about the interventions so that they can be described adequately. TIDieR items can be used as a guide to which intervention characteristics should be incorporated into the data extraction form.

Missing information

Because trial reports often do not adequately describe interventions but trial authors can provide missing details,[17] review authors should plan at the protocol stage to request missing intervention details from investigators.

Statistical analyses, such as subgroup, dose-response, and meta-regression

Decisions about appropriate inclusion and grouping of studies for analyses often requires knowledge of the characteristics of the interventions that were studied. When there is a reason to believe that differences in intervention characteristics (for example, the dose) might lead to different effects, these differences should be identified in the protocol, together with the basis for the assumptions that they might modify the effect, the expected direction of effect modification, and a plan for undertaking a subgroup analysis or sensitivity analysis. In network meta-analyses, creating nodes can be difficult if the interventions are not sufficiently described.

Recommendation 3—Extract intervention details as part of the data extraction process

As specified in the protocol, in the data extraction stage, review authors should extract details of the essential intervention characteristics (guided by TIDieR items) for each included study.

Recommendation 4—Request missing intervention details

If, after extracting intervention details from the primary studies and other available sources (such as online supplements or trial websites), intervention details are missing, review authors should request the missing details from the authors, where feasible. When review authors attempt to contact trial authors and either do not receive a response or find that intervention details are unable to be shared, this should be noted in the review to alert readers This might inform their choice of intervention and also save them from trying to obtain details in vain.

Recommendation 5—Consider intervention characteristics during statistical analyses and exploration of heterogeneity when appropriate

When considering reasons for heterogeneity in review results, having sufficient information about the characteristics of the interventions evaluated might be very important. Where appropriate, decisions about grouping studies and conducting analyses should incorporate knowledge of intervention details as specified in the protocol.

Recommendation 6—Report intervention details in a summary table

Review authors should provide a table that summarises the intervention details for each study (see example in table 1 and the blank table provided as a template in web extra 1). The column headings are based on the TIDieR items. A summary table serves a few purposes; it helps readers to compare the characteristics of the interventions and consider those that may be feasible for implementation in their setting; it highlights interventions that have missing or unavailable details; it shows which trials did not specify certain characteristics as part of the intervention; and it highlights characteristics that have not been studied in existing trials.

Review authors should list all trials and not omit those that provided evidence that a certain intervention was not effective. Knowing the details of an intervention that was not effective can inform future research. Moreover, it is helpful for readers to know that a particular implementation of the intervention in a specific context or when compared to a specific control did not work—context might be particularly important for non-drug interventions.

Recommendation 7—Share intervention materials

During the review process, the authors might gather intervention materials, such as educational materials provided to trial participants as part of the intervention from trial authors. These materials are the most common missing element of intervention descriptions,[1] even though interventions cannot be faithfully implemented without them. If review authors have obtained permission to do so, these materials should be deposited in online repositories (such as Figshare, Dryad, Open Science Framework, or OpenTrials) or uploaded as online supplementary materials of the review, and their availability and location should be indicated in the intervention details table in the review.

Recommendation 8—Describe implications for future research

Review authors should summarise the intervention details of included studies (such as in table 1). If this summary reveals important gaps in existing research; for example, if no or few interventions used a particular component (for multicomponent interventions) or dose (or intensity for non-drug interventions) or delivery method, this should inform the future research section of the review. Similarly, if analyses conducted in the review show that particular characteristics or components of the intervention were (or were not) significantly associated with effect, this can also inform future research. Most of the time, the heterogeneity in effect sizes that might be explained by one or more specific characteristics of an intervention is not definitive, as such assessments are generally confounded by other study features. In the discussion section of the review, authors should consider and justify the extent to which the review findings support

Table 1 | Example of table summarising intervention details (for each TIDieR item[3]) in a systematic review (from Coxeter et al[8])

Author (year)	Brief name	Recipient	Why	What (materials)	What (procedures)	Who provided	How	Where	When and how much	Tailoring	Modification of intervention throughout trial	Strategies to improve or maintain intervention fidelity	Extent of intervention fidelity
Altiner (2007)	Complex GP peer led educational intervention	GPs and patients	Focused on communication in a consultation and the mutual discordance between patient expectations and doctor perceived patient expectations, empowering patients to raise the issue in the consultation. By "informing" both sides in the consultation, it is hoped that doctors and patients would openly talk about the issue and thus reduce unnecessary antibiotic prescriptions	Peers used a semistructured dialogue script for outreach visits. Patient materials (leaflet and poster) provided in waiting room primarily focused on the patients' role, doctor-patient "antibiotic misunderstanding,"and brief evidence based information on acute cough and antibiotics	GP peer led outreach visits. Peers were trained to explore GPs' "opposite" motivational background to tackle their beliefs and attitudes. GPs were motivated to explore patient expectations and demands, to elicit anxieties, and to make antibiotic prescribing a subject in the consultation. Patient materials were aimed at empowering patients to raise and clarify issues in the consultation	5 practising GPs and teaching academics in the lead authors' department (2 female, 33 to 63 years old); trained in 3 sessions for outreach visits	Face-to-face outreach visits to GPs	GP clinics during normal working hours	1 outreach visit performed per GP (duration not specified)	Not described	Not described	Not described	51/52 GPs received intervention
Briel (2006)	Brief training programme in patient centred communication	GPs	Focused on teaching GPs how to understand and modify patients' concepts and beliefs about the use of antibiotics for ARIs. GPs were introduced to a model (Prochaska 1992) for identifying patients' attitude and readiness for behaviour change	Evidence-based guidelines for diagnosis and treatment of ARIs (updated, locally adapted and reviewed by local experts) distributed as a booklet	GPs were trained in elements of active listening, to respond to emotional cues, and to tailor information given to patients. Physicians used a model were introduced to a model (Prochaska 1992) to identify patients' attitudes and readiness for behaviour change	Not specified	Seminar in small groups (number not specified) and personal feedback by telephone before the start of the trial. Evidence based guidelines were distributed as a booklet	Not specified	Attendance at one 6 hour seminar and one 2 hour telephone call to give personal feedback before the trial start	Not described	Not described	Not described	Not described
Butler (2012)	Multifaceted flexible blended learning approach for clinicians	GPs and nurse practitioners	Blended learning experience to develop clinicians' sense of the importance about change and their confidence in their ability to achieve change based on social learning theory. Clinicians reflected on practice level antibiotic dispensing and resistance data, reflected on own clinical practice (context bound learning), and were trained in novel communication skills derived from principles of motivational interviewing	Summaries of research evidence and guidelines, web based modules using video rich material presenting novel communication skills, and a web based forum to share experiences and views (see www.stemmingthetide.org for online component)	Intervention consists of 7 components: experiential learning; updated summaries of research evidence and guidelines; web based learning in novel communication skills; practising consulting skills in routine care; facilitator led, practice based seminar on practice level data on antibiotic prescribing and resistance; reflections on own clinical practice; and a web based forum to share experiences and views	A facilitator conducted the face-to-face seminar	Intervention consisted of 7 parts (5 online modules, 1 face-to-face seminar, and 1 facilitator led, practice based seminar)	The face-to-face and facilitator led seminars were presented at the general practice	7 components (5 online, 1 face-to-face, and 1 facilitator led, practice based seminar) A booster module (6 to 8 months after completion of initial training) reinforced these skills	Intervention was flexible so clinicians could access the online components and try out new skills with their patients at their convenience	Not described	Not described	138/139 completed all online training and uploaded descriptions of consultations for the portfolio tasks; 129/139 attended the practice based seminars; 76/139 completed the optional booster session at 6 months; 11/139 entered new threads on the online forum with 81 posts and 1485 viewings of posts and threads
Cals (2009)	Enhanced communication skills training	GPs	Focused on information exchange based on the elicit-provide-elicit framework from counselling in behaviour change—exploring patients' fears and expectations and patients' opinions on antibiotics and outlining the natural duration of cough in lower respiratory tract infections	Pre and post workshop transcripts of simulated patients	Brief context learning based workshop in small groups (5-8 GPs), preceded and followed by practice based consultations with simulated patients. GPs reflected on own transcripts of consultations with simulated patients, which were also peer reviewed by colleagues	Experienced moderator to lead seminars	Brief workshop (5-8 GPs), preceded and followed by practice based consultation with simulated patients	General practice	One 2 hour moderator led small groups workshop, preceded and followed by practice based consultation with simulated patients	Not described	Not described	Not described	66% of patients recruited by GPs allocated to training in enhanced communication skills recalled their GP's use at least 3 of 4 specific communication skills compared with 19% in the no training group
Francis (2009)	Interactive booklet for parents and clinician training in its use	GPs and patients	Focused on specific communication skills, such as exploring parents' main concerns, asking about their expectations, and discussing prognosis, treatment options, and reasons that should prompt re-consultation	8 page booklet (now at www.whenshouldiworry.com); online training in use of the booklet included videos to demonstrate use of the booklet within a consultation, as well as audio feeds, pictures, and links to study materials	Booklet given to parents to use in the consultation and as a take home resource (no further details provided). Online training on the use of the booklet was provided to GPs: describing the content and aims of the booklet, and encouraging use within the consultation to facilitate use of specific communication skills	NA (online training)	Parents used the booklet face-to-face in the consultation with GPs and took it home; GP training in use of booklet was online	General practice; parents' homes	One 40 minute online training module	Not described	Not described	Online clinician training monitored through study website: whether a GP has logged on to the site, how much time spent on it, and which pages were viewed	Stated that treatment fidelity was not measured so that assessors could remain blind to the study group

Légaré (2012)	Shared decision making training programme (DECISION+2)	Family physicians (including teachers and residents)	A shared decision making training programme that aimed to help physicians communicate to patients the probability of a bacterial ARI and the benefits and harms associated with the use of antibiotics	Online tutorial and workshop included videos, exercises, and decision aids to help physicians communicate to their patients the probability of bacterial ARIs and the benefits and harms of antibiotic use. Decision aids were available in the consultation rooms in all family practice teaching units	Online self tutorial comprising 5 modules, and a 2 hour online tutorial followed by a facilitator led on-site interactive workshops aimed to help physicians review and integrate concepts acquired during online training	Trained facilitators	Online tutorial and face-to-face workshop	Family practice teaching units	One 2 hour online tutorial, followed by one 2 hour on-site interactive workshop. Participants had 1 month to complete the programme	Not described	Not described	Not described	Of the 162 physicians, 103 completed both the online tutorial and workshop; 16 completed only the workshop; 15 only the tutorial; and 28 completed none of the training components
Légaré (2011)	Multiple component, continuing professional development programme in shared decision making (DECISION+)	Family medicine groups (physicians and nurses)	Aimed to help family physicians communicate to patients the probability of bacterial ARI and benefits and harms of antibiotic use	Workshops included videos (simulated consultations of usual care and SDM) and exercises (facilitators and barriers to SDM). GPs trained in the use of 5 decision support tools using video examples and group exercises. A booklet summarising workshop content provided to participants. Postcard reminders sent	Interactive workshops and related material, reminders of expected behaviours and GP feedback on agreement between their decisional conflict and that of their patients	Trained facilitators	Face-to-face workshop	Family medicine groups	Three 3 hour interactive workshops and related material, in addition to reminders of expected behaviours and GP feedback on agreement between their decisional conflict and that of their patients. DECISION+conducted over 4 to 6 months	Not described	4 pilot workshops held rather than 3 as the second workshop was redesigned and re-piloted after feedback on its first testing	Not described	Not described
Little (2013)	Internet based training in enhanced communication skills	GPs	Rationale was that internet based training can be more widely disseminated than face-to-face training. Training focused on eliciting patients' expectations and concerns, natural disease course, treatments, agreement on a management plan, summing up, and guidance on when to re-consult	Interactive booklet for use by GPs in consultations. Training supported by video demonstrations of consultation techniques	Online modules and an interactive booklet for use in consultations. Group practices also appointed a lead GP to organise a structured meeting on prescribing issues	NA (online modules) other than lead GP at each practice to organise a meeting (not specific to just this arm of the intervention though)	Online modules (and GP led structured practice based meeting)	General practice	Internet modules completed alone or in a group	Not described	Not described	Not described	94/108 practices (87%) completed the communication training. Mean (standard deviation) time spent on the website was 37 (29) minutes
Welschen (2004)	Group education meeting with consensus procedure and communication skills training	GPs/ pharmacist, their assistants, and patients	GPs discussed evidence for antibiotic benefit-risk and learned communication techniques to explore patients' expectations and concerns, inform about natural course of symptoms, self medication, and alarm symptoms. Patient education provided information on the self limiting nature or ARIs, self medication, and alarm symptoms requiring re-consultation	Group consensus guidelines and patient waiting room materials (posters and leaflets)	Group education meeting with consensus procedure, a summary, and guidelines mailed 1 month later to reinforce consensus reached; feedback on prescribing behaviour (before and after intervention insurance claims data) and practice level reporting of extent that prescribing behaviours aligned with consensus reached; group education session for GP and pharmacists assistants. Dutch guidelines and skills training in patient education; waiting room education al material for patients	Jointly led by GP and pharmacist	Group education meeting for GPs with consensus procedure and communication skills training. Group education for GPs' and pharmacists' assistants, monitoring and feedback on prescribing behaviour, and patient education materials	Not described	One group education meeting with consensus procedure; one 2 hour group education session for GPs' and pharmacists' assistants; monitoring and feedback of prescribing behaviour at 6 months after intervention	Not described	Not described	Not described	Not described

ARI=acute respiratory infection; GP=general practitioner; NA=not applicable; SDM=shared decision making

conclusions about whether any of the differences in intervention details lead to important differences in effects.[9 10]

Cochrane reviews

Authors of Cochrane intervention reviews should follow the Methodological Expectations for Cochrane Intervention Reviews (MECIR) standards. The revised MECIR standards published in October 2016[11] reference TIDieR as a guide for collecting and reporting intervention characteristics (Standards C44 and R65). Information about TIDieR has also been added to the training materials for Cochrane authors.[12] Cochrane authors are encouraged to provide a structured account of intervention details in the table of "Characteristics of included studies." They can provide an additional summary table with intervention details for each study (as shown in table 1, which comes from a Cochrane review[8]) and can share intervention materials gathered during the review (see recommendation 7 and box 1) as appendices to the review.

Non-Cochrane reviews

Authors of non-Cochrane reviews are encouraged to follow the recommendations listed in box 1. The relevant PRISMA-P items are listed earlier in recommendation 2. The relevant PRISMA items include: 1, title; 2, abstract; 3, rationale; 4, objectives; 6, eligibility criteria; 8, search; 9, study selection; 10, data collection process; 11, data items; 18, study characteristics; 25, limitations; and 26, conclusion and future research. Modification of guidance for the relevant PRISMA[5] and PRISMA-P[6] items will be considered when these reporting guidelines are next updated.

Recommendations for peer reviewers and editors of systematic reviews

As with other research replicability and reporting issues, peer reviewers and editors also have a role to play in helping to ensure that interventions are appropriately considered and reported in systematic reviews. They should be guided by many of the recommendations in box 1 and should check that interventions are clearly defined and their details are appropriately considered in analyses, are reported as completely as possible, and are considered in the review's discussion, conclusions, and, where appropriate, the future research section.

Using the findings of a systematic review: the importance of knowing intervention details

New trials should be designed according to what is already known from systematic reviews.[13] Providing complete intervention descriptions in systematic reviews is important for informing researchers as they develop and modify interventions to evaluate in future studies (see recommendation 8).

Clinicians, patients, and policy makers cannot implement effective interventions if details of the interventions are not known. Review users should be able to compare the details of the interventions and consider whether—and, if so, how—to implement interventions in their setting (see details in the elaboration of recommendation 6 and section below). As well as individual decisions, having appropriate intervention details might also influence broader decisions, such as those about reimbursement or adapting standard practices. The usability of many downstream evidence resources that incorporate systematic review findings (such as clinical guidelines and patient decision aids) is also influenced by whether the interventions are appropriately detailed in the review. The safety of an intervention can also be compromised if there is not transparency about all its characteristics.

Choosing which intervention to implement

We do not intend to provide guidance about methods for selecting interventions for clinical implementation from those included in a systematic review. Such decisions need to be informed by multiple considerations[14] including the size of the desirable effects; the size of the undesirable effects; the balance between the desirable and undesirable effects (considering patients' preferences and how much people value the main outcomes); the certainty of the evidence; resource requirements; cost effectiveness; impacts on equity; intervention feasibility and acceptability; and the availability of intervention details. Because these considerations go beyond the evidence that is included in most systematic reviews, and as there is no optimal method of selecting a particular intervention from those included in a review, in most circumstances it is not appropriate for review authors to nominate a single recommended intervention. Details of approaches for choosing an intervention are described elsewhere.[14 15] But all approaches require detailed descriptions of the intervention, and some also require detailed descriptions of the comparator interventions.

Although review authors generally should not make recommendations about a single intervention, they might want to provide a summary paragraph of the known factors to consider when choosing an intervention. This may be particularly helpful if users of the review choose to follow a "single trial based choice" approach.[15] In this approach, users examine the trials and consider the effects (benefits and harms) and risk of bias of single studies; then they consider the context, feasibility, and requirements of the various interventions. A summary table of intervention details (such as in the example in table 1) might help the user with this step. While the information that needs to be considered and summarised will depend on the intervention being reviewed, an example of the broad content that a summary paragraph in a review might follow is: "Among the [number of] trials, there are [number of] trials that have a low risk of bias and have sufficiently described interventions. All of these involved [list common characteristics], but there are a number of variations to consider, depending on [cost,

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time, risk of harms, training requirements, availability, and so on]."

Further research

Many aspects of using and reporting intervention details in systematic reviews need further research. For example, studies should explore methods for reporting intervention details and for incorporating intervention details into forest plots so that effect sizes, risk of bias, intervention characteristics, and availability of intervention details can be considered simultaneously. Incorporating intervention details into the conduct and presentation of overviews and network meta-analyses[16] also needs exploring. The extent to which review authors make changes to the scope of eligible interventions (and how broad or narrow this is) as reviews progress from registration, to protocol, to a published review is not known. More complete intervention reporting at each of these stages of a systematic review is necessary to progress this research agenda. Research with end users of reviews (including clinicians, patients, guideline developers, and policy makers) to better understand how they use review results and which details influence their choice when deciding between interventions would also be valuable. Further research is also needed into approaches, such as Qualitative Comparative Analysis[17] and logic models,[18] for identifying which configurations of intervention characteristics and contextual features[19] are critical for successful outcomes.

Conclusion

Improving the completeness of intervention descriptions in systematic reviews is likely to be a cost effective contribution towards facilitating evidence implementation from reviews and reducing the research waste that is caused by reviews failing to consider and provide sufficient details about interventions. With implications for being able to reproduce and implement systematic reviews, everyone with a role in producing, reviewing, and publishing systematic reviews should commit to helping to solve this remediable barrier.

AUTHOR AFFILIATIONS

[1]Centre for Research in Evidence-Based Practice, Faculty of Health Sciences and Medicine, Bond University, Queensland, Australia

[2]Centre for Informed Health Choice, Norwegian Institute of Public Health, Oslo, Norway

[3]Departments of Medicine, of Health Research and Policy, and of Statistics, and Meta-Research Innovation Center at Stanford (METRICS), Stanford University, Stanford, CA, USA

[4]Ottawa Hospital Research Institute, Ottawa, Canada,

[5]Cochrane Editorial Unit, Cochrane Central Executive, London, UK

[6]Institute for Health Research, University of Exeter Medical School, Exeter, Devon, UK

[7]EPPI-Centre (Evidence for Policy and Practice Information and Co-ordinating Centre), Institute of Education, University College London

[8]Centre de Recherche Epidémiologie et Statistique, INSERM U1153, Paris, France; and Faculté de Médecine, Université Paris Descartes, Sorbonne Paris Cité, Paris, France

[9]Centre for Statistics in Medicine, Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal Sciences, University of Oxford, Oxford, UK

[10]Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK

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Web extra 1: Template table